E87030-00
E88062-00

STEALTH™ ASD20B

20" Automatic Scrubber with Brush Assist

Operator and Parts Manual

1001 Brown Avenue • Toledo, Ohio 43607-0127
Customer Service: 888-GO-BETCO • Fax: 800-445-5056 • Technical Service: 877-856-5954 • www.betco.com

RECEIVING THE MACHINE

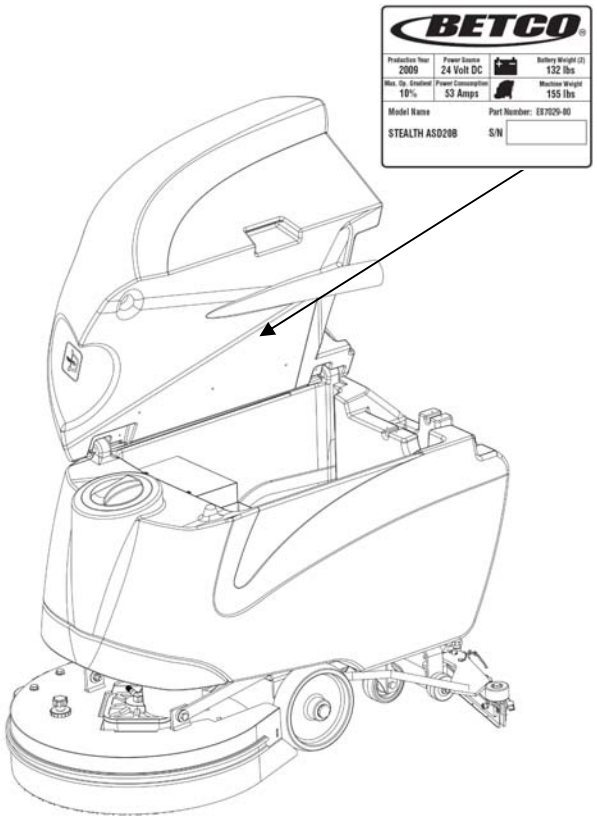
Immediately check, when receiving the machine, that all the materials indicated on delivery documents have been received and also that the machine has not been damaged in transit. If it has been damaged, this damage must be immediately reported to the shipper and also to our customer's service department. Only acting promptly in this manner will make it possible to receive missing material and to be compensated for damage.

INTRODUCTION

This is an automatic scrubber which, via the mechanical action of the rotating brush and the chemical action of a water/detergent solution, can clean any type of flooring. As it advances, it also collects the dirt removed and the detergent solution not absorbed by the floor.

The machine must be used only for this purpose. Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and re-read it whenever difficulties arise while using the machine. If necessary, remember that our assistance and customer service (organized in collaboration with our dealers) is always available for advice or direct intervention.

SERIAL # PLATE

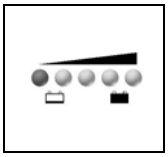


TECHNICAL DESCRIPTION	UM	
Rated power	HP (W)	1.3 (950)
Working width	In (mm)	19.7 (500)
Rear squeegee width	In (mm)	29.2 (742)
Work capacity	ft^2/h (m^2/h)	15,600 (1450)
Water consumption	g/m^2	38
Brush & Pad (diameter)	∅ in (mm)	19.7 (500)
Brush RPM	RPM	140
Brush pressure	lb (Kg)	51 (23)
Brush motor	V / HP (V / W)	24 / 0.54 (24 / 400)
Drive Type		Semi-Auomatic
Vacuum motor	V / HP (V / W)	36 / 0.74 (36 / 550)
Vacuum motor suction	inches of water (mbar)	75.6 (188)
Solution tank capacity	Gal (l)	10.6 (40)
Recovery tank capacity	Gal (l)	13.2 (50)
Weight of machine (excluding batteries)	lb (Kg)	165 (75)
Batteries	V / Ah	12 / 130 (2)
Charger	V / A	24 / 12
Battery compartment dimensions (Length / Height / Width)	in x in x in (mm/mm/mm)	14.2 x 12.8 x 13.0 ((360 /325 /330)
Machine dimensions (Length / Height / Width)	in x in x in (mm/mm/mm)	45.3 x 39.4 x 20.9 (1150 / 1000 / 530)
Noise level	dBA	58
Vibration level	ft/s^2 (m/s^2)	2.5 (0.75)

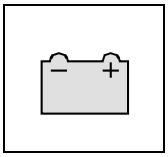
SYMBOLS USED ON THE MACHINE

Solution valve symbol
Used to indicate the water regulation switch

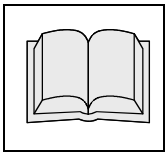
Brush release symbol
Used to indicate the button for automatic brush release



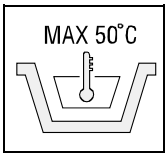
Battery charge gauge



Battery symbol



Open book symbol
Used to tell the operator to read the manual before using the machine



Maximum solution temperature gauge
Located near the solution tank inlet

GENERAL SAFETY REGULATIONS

The regulations below must be carefully followed in order to avoid harm to the operator and damage to the machine.

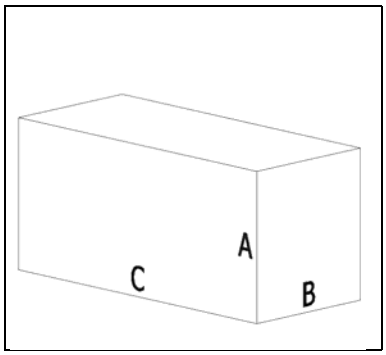
- ❒ Read all labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged.
- ❒ The machine must be used exclusively by authorized and trained personnel.
- ❒ When operating the machine be careful of other people and of children in particular.
- ❒ The machine is not suitable for cleaning carpets.
- ❒ The power cable outlet must be provided with a proper ground.
- ❒ Avoid damaging the power cable or the battery charger by crushing, bending or stressing it.
- ❒ Whenever the power cable of the battery charger is damaged, immediately contact a BETCO service center.
- ❒ Do not mix different types of detergent as this may produce harmful gases.
- ❒ Do not set containers of liquid on the machine.
- ❒ Machine storage temperature is between -10°F and 130°F, never store outside under humid conditions.
- ❒ Operating conditions: room temperature between 32°F and 100°F with relative humidity between 30% to 95%.
- ❒ Only use the machine in closed areas and do not expose it directly to rain.
- ❒ Never use the machine in an explosive environment.
- ❒ Do not use the machine as a means of transport.
- ❒ Never use acid chemicals which could damage the machine.
- ❒ Avoid running the brushes with the machine stopped: this could damage the floor.
- ❒ Never vacuum up flammable liquids.
- ❒ Never use the machine to gather dangerous powders.
- ❒ Use a powder fire extinguisher in case of fire. Do not use water.
- ❒ Do not hit against shelving or scaffolding when there is a chance of falling objects. The operator must always be equipped with the appropriate safety device (gloves, shoes, helmet, glasses, etc.)
- ❒ Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- ❒ The machine is designed to wash and dry floors simultaneously. Different operations should only be carried out in areas where passage of unauthorised people is prohibited. Signal the presence of wet floors with suitable signs.
- ❒ If the machine does not work properly, check this is not caused by failure to carry out routine maintenance. Otherwise, request the intervention of the BETCO technical assistance center.
- ❒ When replacing parts ask for ORIGINAL spare parts from your Authorized BETCO Dealer and/or Retailer.
- ❒ Always switch off the machine and disconnect the battery connector whenever maintenance is performed.
- ❒ Never remove guards that require tools for removal.
- ❒ Never wash the machine with direct or pressurized jets of water or with corrosive substances.
- ❒ Have your BETCO service center check the machine once a year.
- ❒ To prevent the formation of scale in the solution tank filter, do not fill the tank with detergent solution hours before using the machine.
- ❒ Before using the machine make sure that all doors and covers are positioned as shown in this operating and maintenance manual.
- ❒ Dispose of consumables in accordance with existing laws and codes.
- ❒ When your BETCO machine is ready to be retired its entire component materials must be disposed of properly. They contain oils and electronic components. The machine itself was built using totally recyclable materials.
- ❒ Use only brushes furnished with the machine or those specified in the user's manual (page 19). Use of other brushes can compromise safety.
- ❒ When removing the battery, unplug the battery connection, unplug the charger and disconnect the battery terminals.
- ❒ Before recycling the machine, remove the battery.
- ❒ The battery and the battery charger must be disposed of in accordance with existing laws and codes.
- ❒ The machine is not intended for use by children and people with reduced physical, sensorial or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the machine by a person responsible for their safety.
- ❒ Children must be supervised to ensure that they do not play with the machine.

MACHINE PREPARATION

1. HANDLING THE PACKED MACHINE

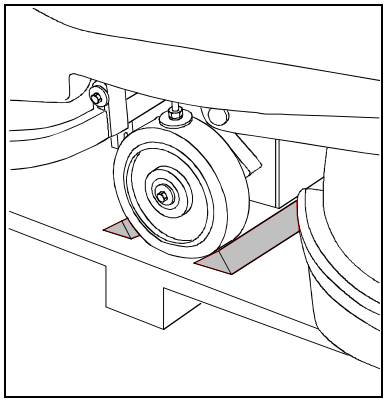
The machine is contained in specific packaging.
It is not possible to place more than two packages on top of each other.
The total weight is 220 lb (100kg).
The overall dimensions of the package are:

A : 45.1 in (1145mm)
B : 26.2 in (665mm)
C : 48.4 in (1230mm)

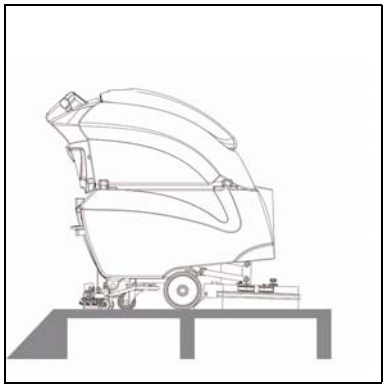


2. UNPACKING THE MACHINE

41 Remove the outer packaging
51 The machine is fixed to the pallet with wedges which block the wheels
61 Remove these wedges



71 Use a ramp to get the machine down from the pallet, pushing it backwards. Avoid violent blows to the base
81 Keep the pallet for any future transport needs



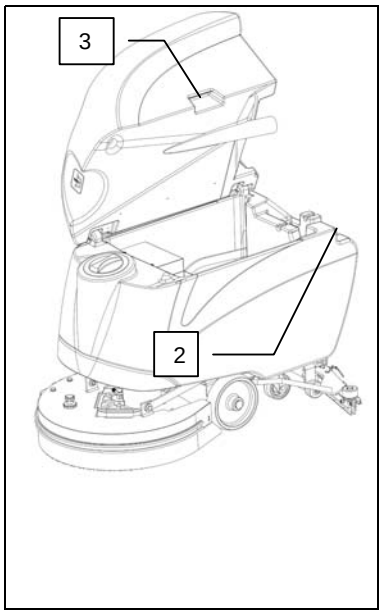
3. BATTERY INSTALLATION

The machine will be supplied with a battery charger and either two 12V Wet or AGM batteries.
The batteries must be housed in the battery tray in the battery compartment beneath the recovery tank.
To insert the batteries you must:

1. Lower the squeegee and base
2. Open the rear hinge that secures the tank
3. Rotate the recovery tank as far as it will go, using the side handle

WARNING: To avoid acid spillage you can use sealed batteries.

WARNING: Perform one battery charging cycle before using the machine.



4. TYPE OF BATTERY

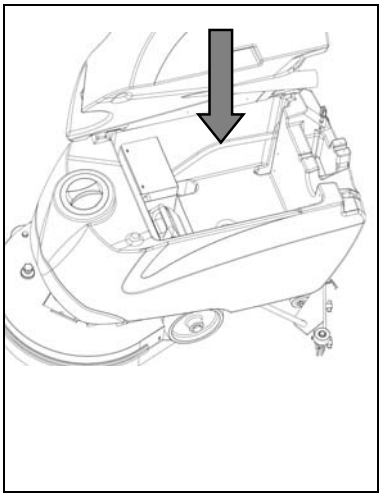
To power the machine you can use:

- Wet batteries
- AGM batteries
- Gel batteries

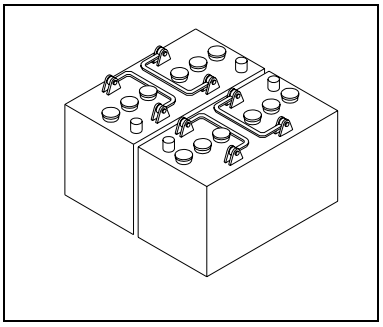
OTHER TYPES MUST NOT BE USED.

The maximum dimensions and the weight are:
Width 6.7 in (171mm)
Length 12.9 in (329mm)
Height 9.6 in (245mm)
Weight 68 lb (31kg)

WARNING: Your charger must be set according to the type of battery you install. Call BETCO customer service to ensure correct charger setting after replacement batteries are installed.



The batteries must be handled using lifting and transportation means suitable for the weight and dimensions.
They must be lifted by the handles on the upper part.
They must be connected together in series, to obtain an overall voltage of 24V on the lugs.
The electrical connection operations must be carried out by certified trained personnel.



5. BATTERY MAINTENANCE

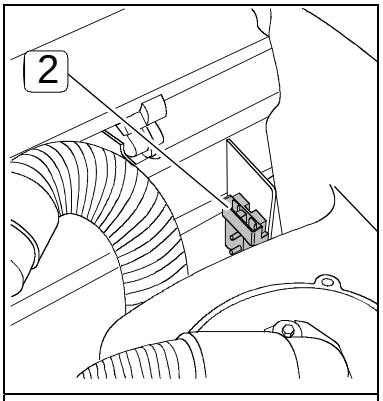
For maintenance and recharging, follow the instructions provided by the battery manufacturer.

6. BATTERY DISPOSAL

When the battery reaches the end of its working life, it must be disconnected by certified professional, then lifted (using the handles and suitable lifting device) to remove it from the battery compartment.
DEAD BATTERIES ARE CLASSIFIED AS HAZARDOUS WASTE AND MUST BE DISPOSED OF AT AUTHORIZED BATTERY DISPOSAL COMPANY.

7. CONNECTING THE BATTERY CHARGER

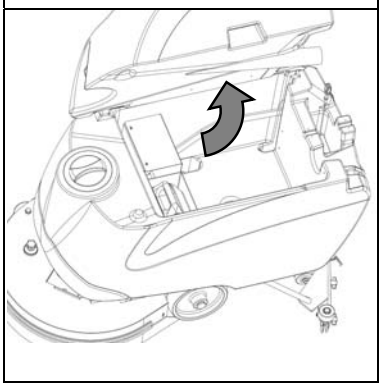
Beneath the recovery tank there is the battery connector (2), the battery charger connector must be plugged into. Disconnect the battery plug and plug the charger into the machine plug.



WARNING: This process must be carried out by qualified personnel. The incorrect or imperfect connection of the cables to the connector can seriously harm people and damage objects.

8. RECHARGING THE BATTERIES

Perform one complete battery charge cycle before using the machine.
Avoid totally discharging the battery! This can cause permanent damage to it.
Recharge as soon as the battery discharged signal light starts to flash.



WARNING: Never leave the batteries completely discharged, not even if the machine is not being used. This can cause permanent damage to them. While recharging, keep the recovery tank raised, supporting it with the prop as shown in the figure. Ensure the battery charger is suitable for the batteries installed, in terms of capacity and type.

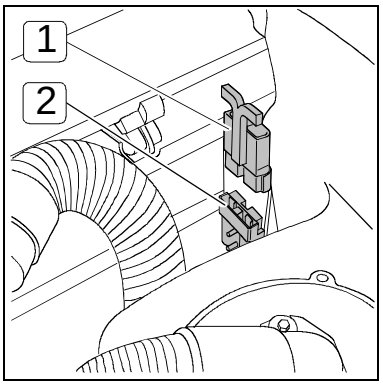
Danger of inhalation of gas and leakage of corrosive liquids.

Danger of fire: do not go near flames.

MACHINE PREPARATION

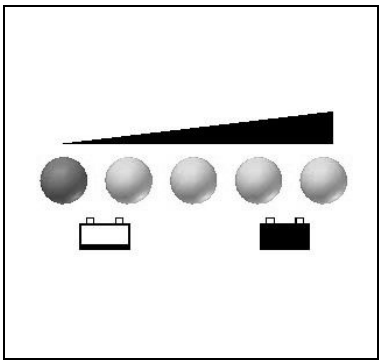
9. CONNECTING THE BATTERY CONNECTOR

Connect the battery connector (2) to the machine connector (1)



11. BATTERY INDICATOR

The battery indicator uses LEDs and has 8 positions (7 yellow - charged batteries, and 1 red - run down batteries).

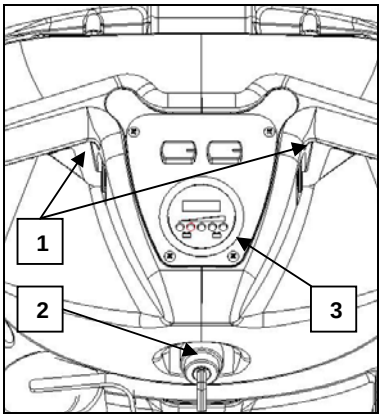


WARNING: a few seconds after the red indicator light comes on, the brush motor switches off automatically. With the remaining charge it is possible to complete the drying process before recharging.

MACHINE PREPARATION

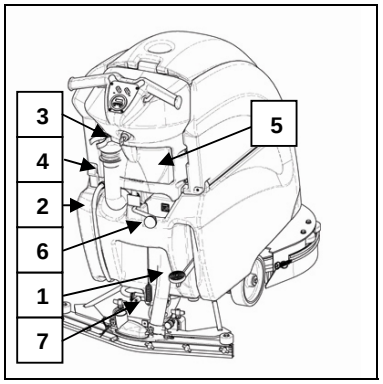
12. INSTRUMENT PANEL COMPONENTS

The instrument panel components are identified as follows:
1- Paddles to activate brushes / traction (located beneath the grip)
2- ON/OFF key switch
3- battery level / hour-counter display



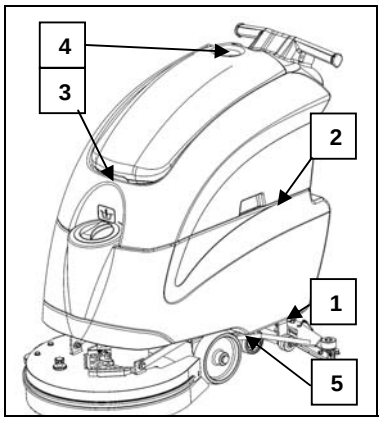
13. REAR COMPONENTS

The rear components are identified as follows:
1- Foot pedal to raise the brushes
2- Water / solution level hose
3- Drainage hose with recovery tank cap
4- Latch to close the tanks
5- Compartment storage
6- Lever to raise the squeegee
7- Solution filter



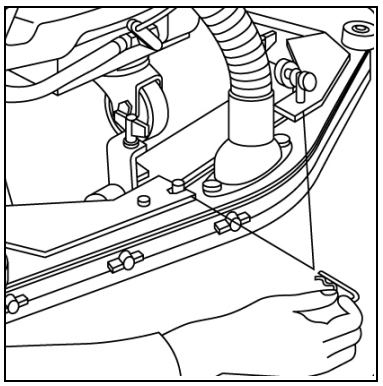
14. SIDE COMPONENTS

The side components are identified as follows:
1- Valve for manual regulation of clean water outlet
2- Handle to raise the recovery tank
3- Handle to raise the vacuum unit
4- Upper storage compartment
5- Brake lever



15. ASSEMBLING THE SQUEEGEE

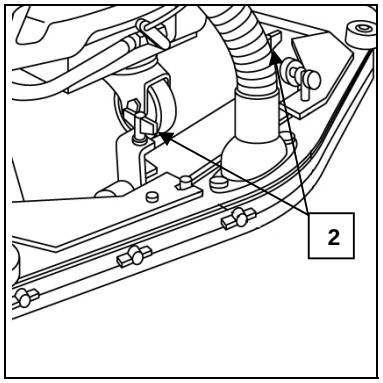
For packaging reasons, the squeegee is supplied dismounted from the machine, and must be assembled as follows:
1- Insert the two small pins of the squeegee in the appropriate holes on the squeegee support;
2- Insert the two cotter pins chained to the squeegee;
3- Plug the squeegee hose in the appropriate sleeve of the squeegee nozzle.



16. ADJUSTING THE SQUEEGEE HEIGHT

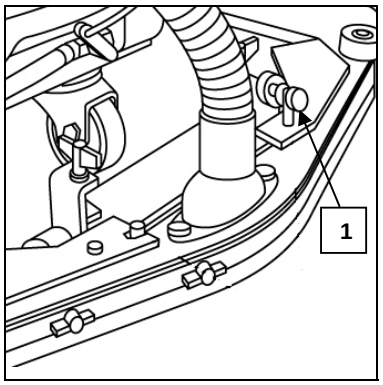
The height of the squeegee must be adjusted based on wear and tear of the squeegee blade. To do this, turn the knobs (2) counter clockwise to raise the squeegee, and clockwise to lower it.

Note: the right and left wheels must be adjusted to the same level, so the squeegee can work parallel to the floor.



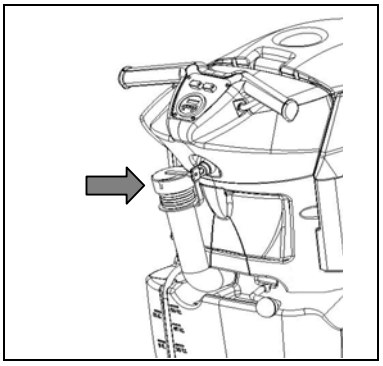
17. ADJUSTING THE SQUEEGEE INCLINATION

During working operation, the rear squeegee blade is slightly tilted backwards (by about 0.2 in (5mm) in a uniform way for its entire length. If it is necessary to increase the bend of the squeegee blade in the central part, you must tilt the squeegee backwards, rotating the adjuster (1) counter clockwise. To increase the bend of the squeegee blade at the sides of the squeegee, rotate the adjuster clockwise. When fully adjusted, tighten the jam nut.



18. RECOVERY TANK

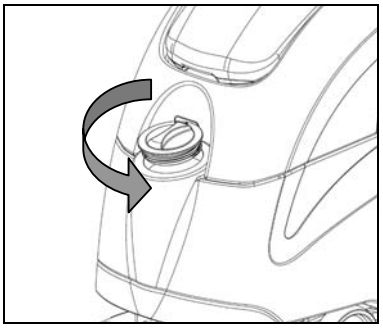
Check the drain hose cap (on the rear of the machine) to ensure it's closed.



MACHINE PREPARATION

19. SOLUTION TANK

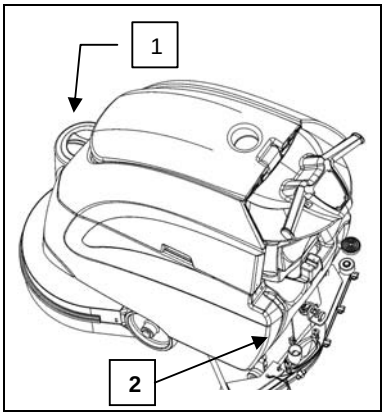
Remove the front inlet cap and check the solution filter is correctly fitted.
Check the filter cap (beneath the solution tank, at the back) is correctly closed.



20. SOLUTION TANK

Fill the tank with clean water in the front fill location (1) at a temperature not exceeding 120°F (50°C). You can check the level of solution in the tank by means of the rear hose (2).
Add the liquid detergent into the tank, in the concentration and manner specified by the manufacturer. The formation of excess foam could damage the vacuum motor, so be sure to use only the correct amount of detergent.

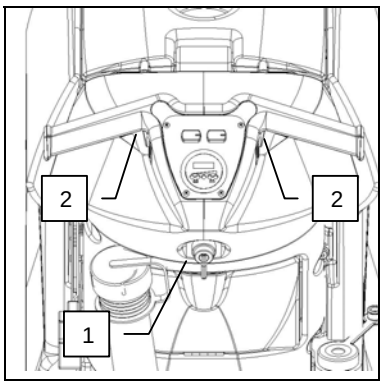
WARNING: Always use low-foam detergent. Introduce a small amount of anti-foam detergent in the recovery tank before starting to work to prevent foam from being generated.
WARNING: Never use pure acids.



22. ASSEMBLING THE BRUSH

41 With the base up, insert the brush and position it in line with the plate beneath the base.

51 Lower the base, turn the key (1) to position “1”, push the paddles (2) on the handlebars.
At this point, the brush is fixed.

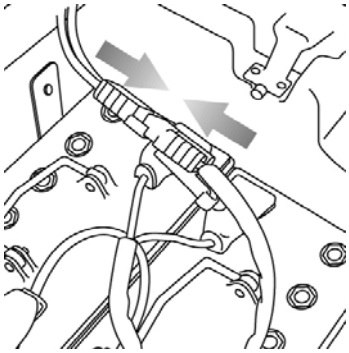


WARNING: Make sure there are no objects or people in the vicinity of the brush when doing this operation

OPERATION

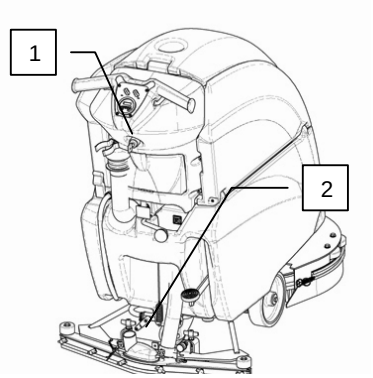
1. MACHINE OPERATION

41 Connect the battery plug (1) to the machine plug



51 Turn the key (1) of the main switch to the "ON" position (clockwise). The battery charge level indicator lights will immediately come on.

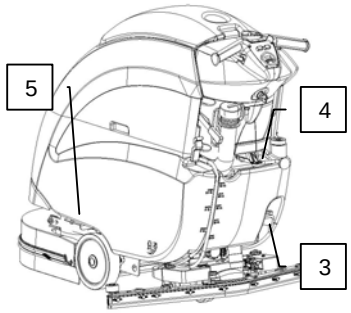
61 Turn on the water valve (2) (the water falls automatically while the brushes are turning).



71 Release the lever (3) and lower the scrubbing head. If the floor is particularly dirty, you can apply an overpressure to the scrubbing head by raising the pedal (3) until the lock down is triggered.

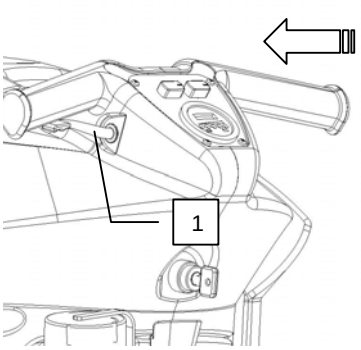
81 Lower the squeegee, turning the lever (4) counter clockwise. The vacuum motor will switch on.

91 Check that the brake (5) is off.



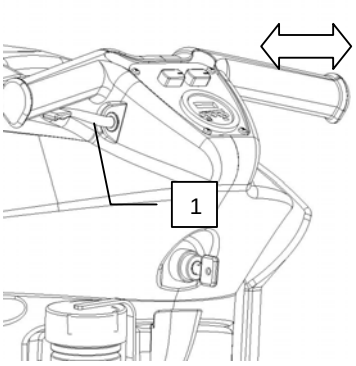
:1 Pressing the paddles (1), activates the brushes and the machine begins to move (model with traction). During the first feet, check the amount of solution is correct, and that the squeegee dries the floor perfectly.

;1 The machine will now start to scrub and dry until the solution tank is empty or recovery tank is full.



3. FORWARD MOVEMENTS

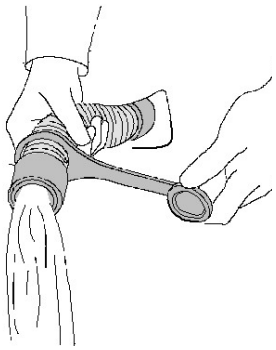
The traction of these machines is obtained by means of the pad which, working slightly inclined, is able to drag the machine forwards. To move the machine, you must use the key then activate the paddles levers (1) on the handlebars.



WARNING: when making even brief reverse movements, check the squeegee and base are raised.

4. OVERFLOW DEVICE

The machine has a float in the filter basket that trips when the recovery tank is full to stop airflow into the vacuum hose.
At this point you must empty the recovery tank by removing the cap of the rear drainage hose.



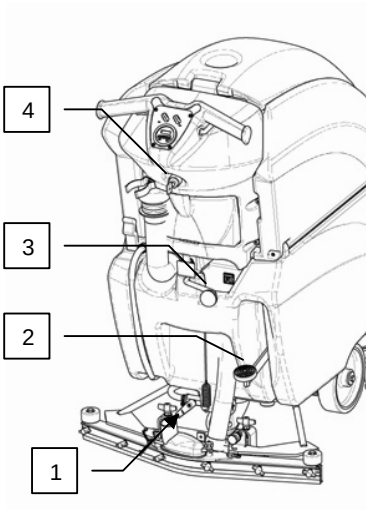
WARNING: Always wear gloves when doing this operation to protect you from contact with hazardous chemicals.

SHUTTING DOWN THE MACHINE

1. AT THE END

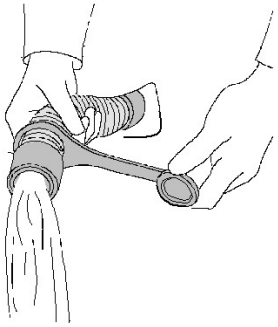
Proceed as follows when shutting down the machine and before you perform any type of maintenance:

1. Turn off the valve using its handle (1)
51 Raise the brush deck using the pedal (2)
3. Raise the squeegee using the lever (3)
4. Turn off the key switch (4)
5. Move the machine where the tanks can be drained



6. Remove the drainage hose from its compartment, unscrew the drainage cap and empty the recovery tank.
7. The squeegee must be raised when the machine is not operating, in order to avoid deforming the squeegee blade blades.
8. Disassemble the pads and clean them with water (to disassemble the pads, see “DISASSEMBLING THE PAD” below).

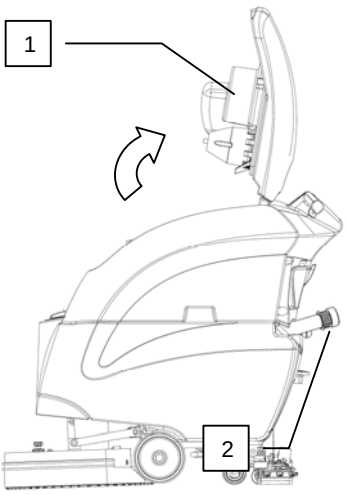
WARNING: Always wear gloves when doing this operation to protect you from contact with hazardous chemicals.



DAILY MAINTENANCE

1. CLEANING THE RECOVERY TANK

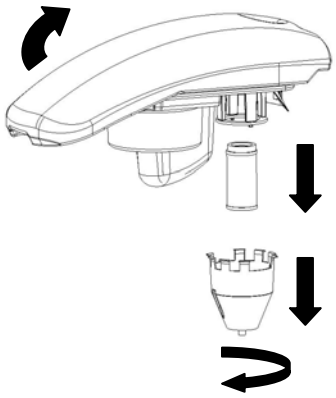
1. Raise the vacuum cover (1) and prop it open using the lifting rod on the right-hand side of the lid.
2. Remove the drainage hose (2) from its fitting and empty the tank.
3. Rinse the inside of the tank well with water.
4. Reposition the cover on the machine and replace the drainage hose cap and drainage hose.



WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

2. CLEANING THE VACUUM FILTER

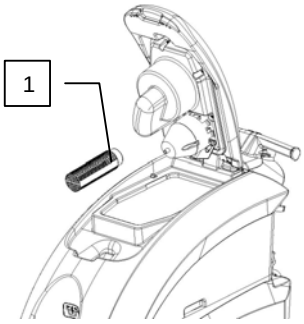
41 Raise the cover.
51 Remove the vacuum filter cover by rotating it clockwise.
61 Pull the filter straight away from the lid to remove it.
71 Use water to clean the walls and base of the filter.
81 Carry out the cleaning operations carefully.
91 Reassemble all the elements.



WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

3. CLEANING THE VACUUM HOSE FILTER

41 Raise the vacuum cover.
51 Rotate the inner filter (1) and remove it.
61 Use water to clean the walls and base of the filter.
71 Carry out the cleaning operations carefully.
81 Reassemble all the elements.



WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

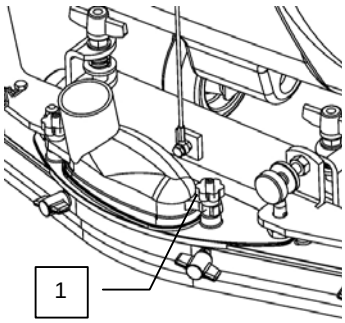
DAILY MAINTENANCE

4. CLEANING THE SQUEEGEE

Ensure the squeegee is always clean, for better drying results.

To clean it you must:

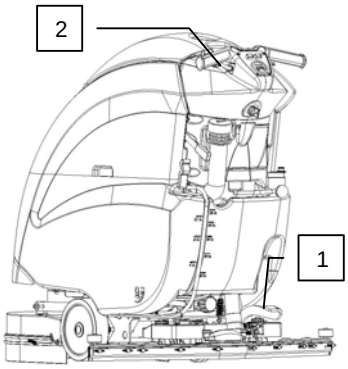
41 Remove the hose from the squeegee
51 Loosen the knobs (1) at the hose nozzle
61 Remove and clean the nozzle
71 Carefully clean inside the squeegee
81 Carefully clean the squeegee blades
91 Reassemble all the squeegee assembly



5. DISASSEMBLING THE PAD

To disassemble the pad, proceed as follows:

1. Turn on the machine with the key switch
2. Press the pedal that raises and lowers the base, and keep it pressed
3. Press the paddles (2) then release them immediately
4. Upon release, the brush will be automatically release from the base

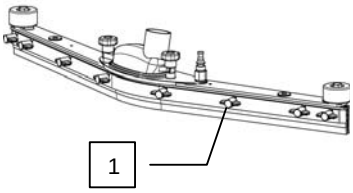


6. REPLACING THE SQUEEGEE BLADES

Check the state of wear and tear of the squeegee blades and, if necessary, replace them.

To replace them you must:

41 Remove the squeegee hose from the nozzle
51 Remove the cotter pins that fix the pins of the squeegee
61 Disassemble the squeegee from its support
71 Loosen the wing nuts by two turns (1)
81 Remove the squeegee band clamp and squeegee blade
91 Replace the squeegee blades



To reassemble the squeegee, repeat the above-mentioned operations in the reverse order.

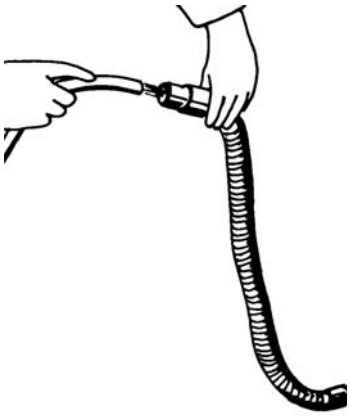
WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

WEEKLY MAINTENANCE

1. CLEANING THE SQUEEGEE HOSE

Every week, or whenever vacuum seems to be unsatisfactory, check the squeegee hose for obstructions. To clean it, proceed as follows:

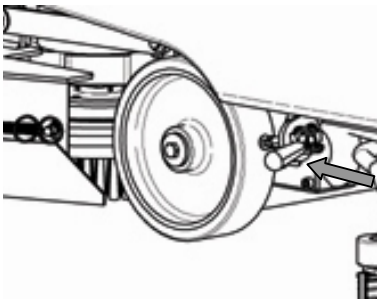
1. Remove the hose from the sleeve on the squeegee
2. Remove the other end from the recovery tank
3. Wash the inside of the hose with water introduced from the side where it is connected to the tank
4. Reassemble the hose



WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

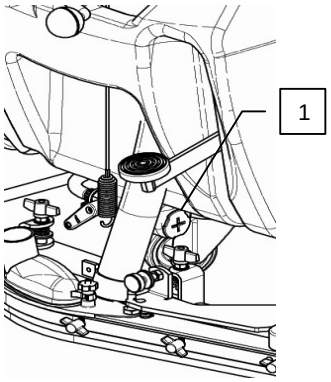
2. CHECKING THE BRAKE

Every week, check the distance between the work brake pads and the wheels. If necessary, adjust them by means of the nuts, so they are at a distance of 0.12 in (3mm) when released.



3. CLEANING THE SOLUTION TANK

1. Loosen the solution tank cap.
2. Rinse with water.
3. Loosen the drainage cap (1) located on the filter, and empty the tank.

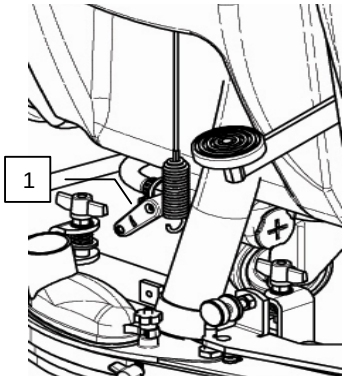


WARNING: Always wear gloves when doing this operation to protect yourself from contact with hazardous chemicals

TROUBLESHOOTING GUIDE

INSUFFICIENT WATER ON THE PAD

41 Check the valve – located beneath the symbol – (1) is turned on.
51 Check there is water in the solution tank.



THE MACHINE DOES NOT CLEAN WELL

41 Check the state of wear and tear of the pad and, if necessary, replace it.
51 Use a different kind of pad to the one fitted as standard. For cleaning floors where the dirt is particularly resistant, we recommend the use of special brushes supplied upon request and according to needs (see “CHOOSING AND USING THE BRUSHES”).

THE SQUEEGEE DOES NOT DRY PERFECTLY

41 Check the squeegee blades are clean.
51 Adjust the inclination of the squeegee (see "SQUEEGEE" under “MACHINE PREPARATION”)
61 Ensure the vacuum hose is correctly inserted in its housing on the recovery tank.
71 Check the inner filter of the recovery tank to ensure it is not dirty and, if necessary, clean it thoroughly.
81 Disassemble the entire vacuum unit and clean it.
91 Replace the squeegee blades, if worn.
:1 Ensure the vacuum motor switch is turned on.
;1 Check wheel adjustment.

TOO MUCH FOAM IS GENERATED

Check that low-foam detergent is being used. If necessary add a small amount of anti-foam liquid to the recovery tank.
Remember that more foam is generated when the floors are not very dirty. Dilute the detergent more when cleaning floors that are not very dirty.

CHOOSING AND USING THE BRUSHES

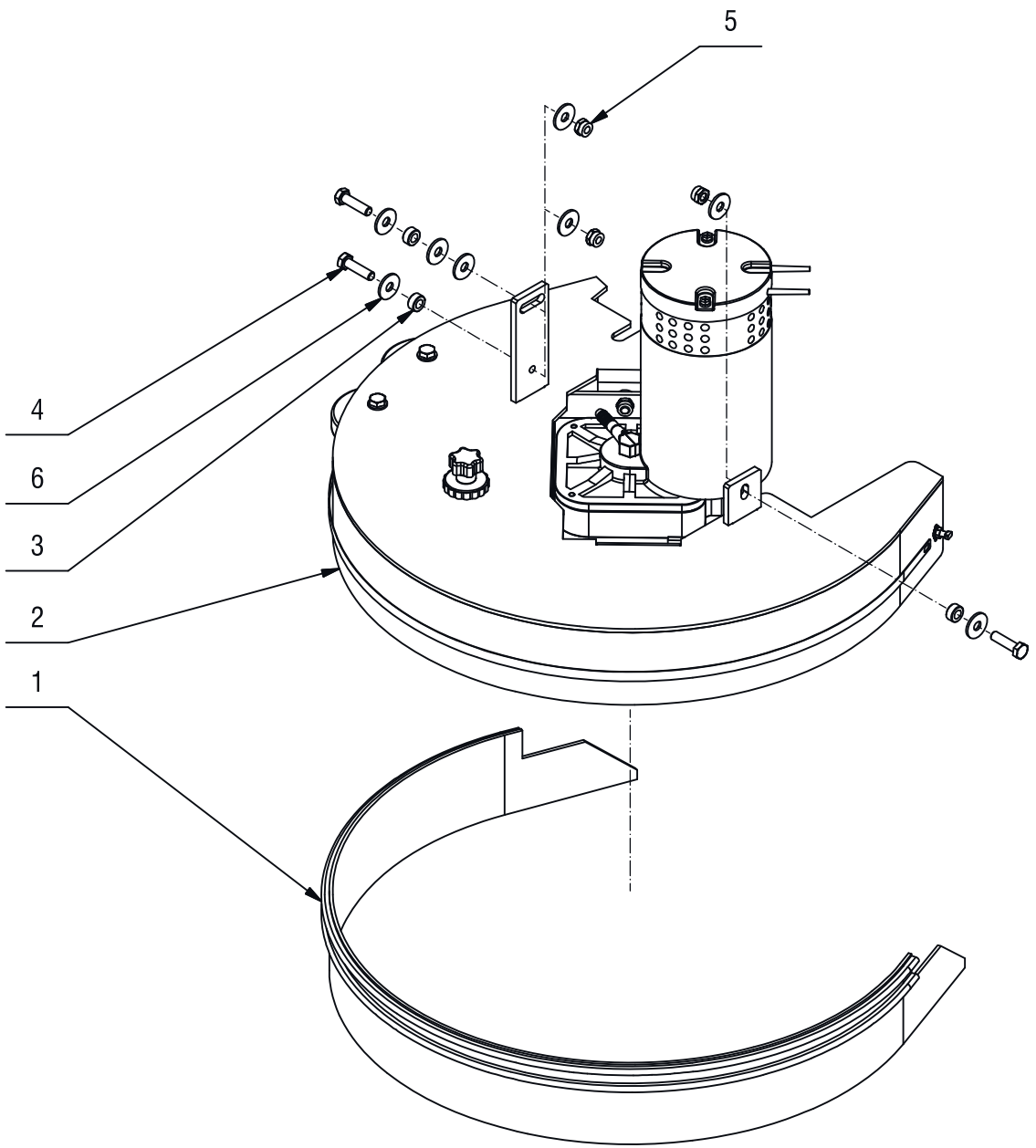
POLYPROPYLENE BRUSH (PPL)
Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 140°F (60°C)). The Polypropylene brush is non-hydroscopic and therefore retains its characteristics even when working in wet conditions.

NYLON BRUSH
Used on all types of floors. Excellent resistance to wear and tear and hot water (even over 140°F (60°C)). The nylon is hydroscopic and it tends to lose its characteristics over time when working in wet conditions.

ABRASIVE BRUSH
The bristles of this type of brush are coated with highly aggressive abrasives. It is used to clean very dirty floors. To avoid floor damage work only with the head pressure necessary.

THICKNESS OF THE BRISTLES
Thicker bristles are more rigid and are therefore used on smooth floors or floors with small joints.
On uneven floors or those with deep joints, it is advisable to use softer bristles which can enter the gaps easier.
Remember that when the bristles are worn and too short, they will become rigid and are no longer able to penetrate and clean deep down. In this case the brush tends to jump.

PAD DRIVER
The pad holder is recommended for cleaning smooth surfaces.
There are two types of pad holder:
1. The traditional pad holder is fitted with a series of anchor points that allow the abrasive floor pad to be held and dragged while working
2. The CENTER LOCK type pad holder not only has anchor points, but also a snap-type central locking system made of plastic that allows the abrasive floor pad to be perfectly centered and held without any risk of it becoming detached. This type of dragging device is recommended above all for machines with more than one brush, where the centering of the abrasive discs is difficult.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Item Number	Part Number	Description	QTY.
1	E88272	Brush Deck Splash Guard	1
2	E20073	Brush Deck	1
3	E83970	Bushing	3
4	E83802	Hex Bolt M8x30 Zinc	3
5	E81709	Nyloc Hex Nut, M8 Zinc	3
6	E83404	Flat Washer M9x24x2.5 Zinc	8

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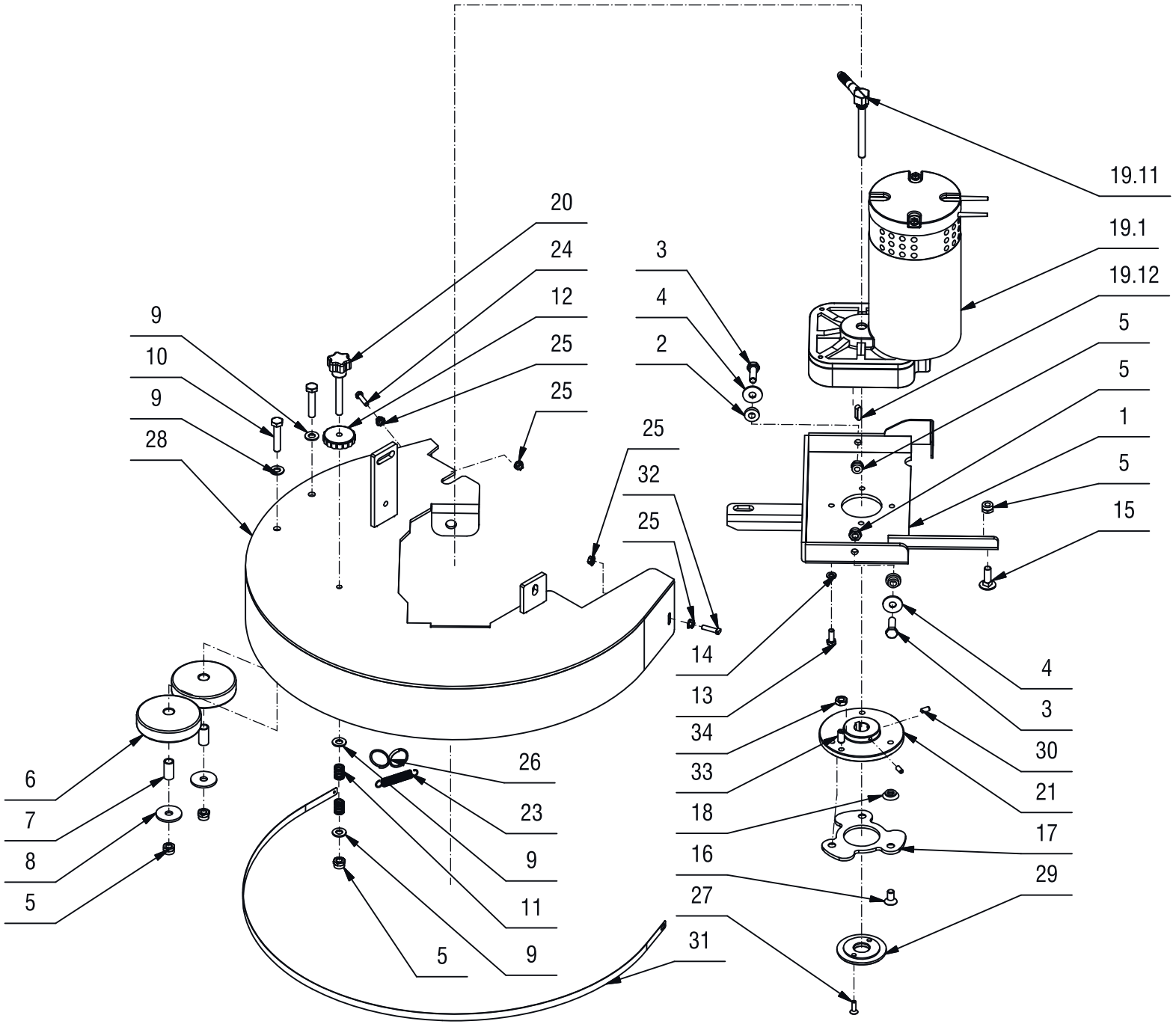
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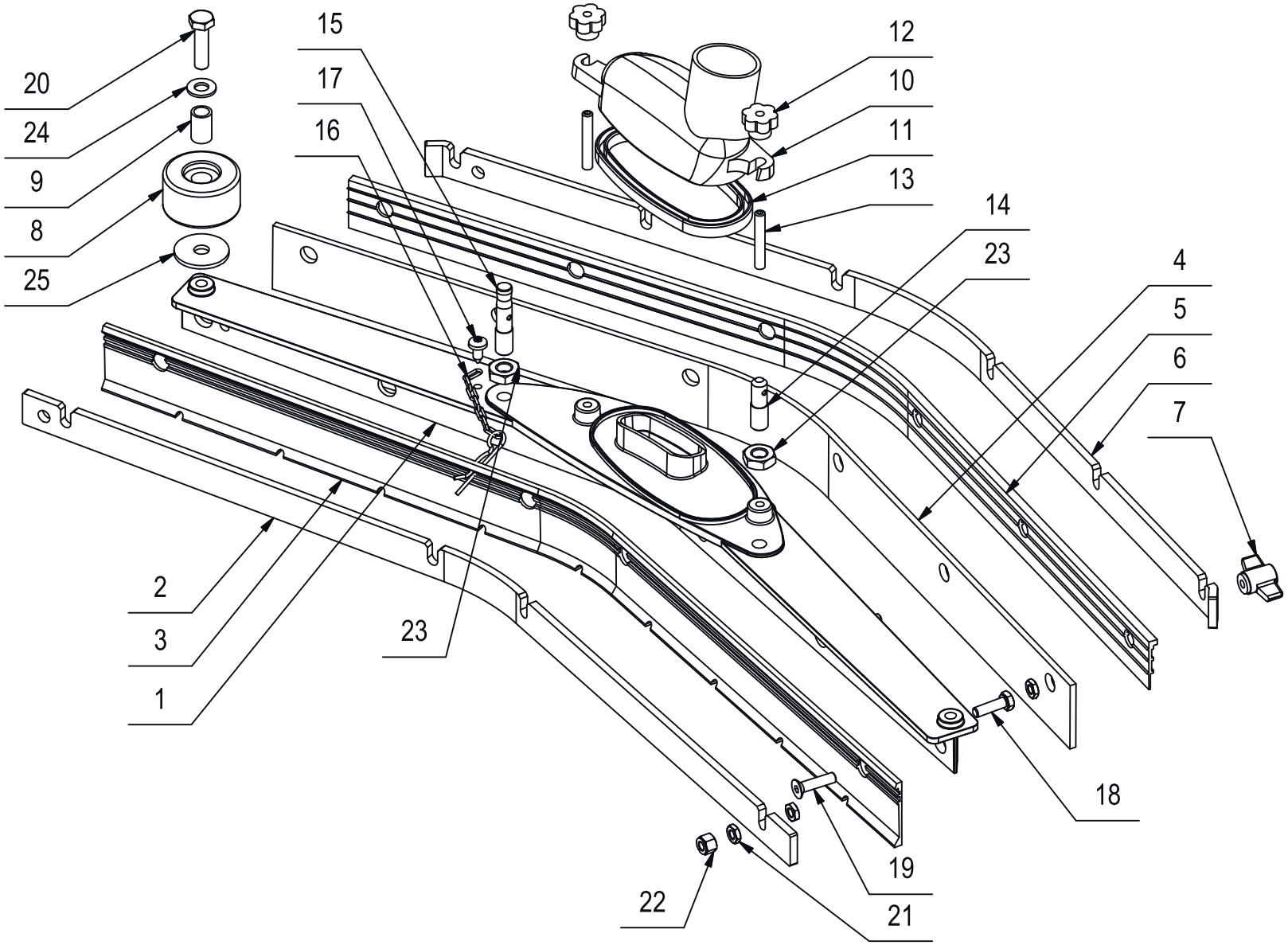
Item Number	Part Number	Description	QTY.
1	E20011	Motor Mount Plate	1
2	E82312	Bushing	2
3	E83833	Hex Bolt M8x25 Zinc	2
4	E83404	Flat Washer M9x24x2.5 Zinc	2
5	E81709	Nyloc Hex Nut, M8 Zinc	6
6	E83895	Wheel 80 OD x 23 W	2
7	E83524	Bushing	2
8	E81918	Flat Washer M9x32x2.5 Zinc	2
9	E81874	Flat Washer M8x17x1.6 Zinc	4
10	E83830	Hex Bolt M8x40 Zinc	2
11	E82309	Spring, Compression	2
12	E83331	Knob	1
13	E83547	Hex Bolt M6x16 Zinc	4
14	E82774	Flat Washer M6x12x1.6 SS	4
15	E20093	Carriage Bolt M8x25 Zinc	1
16	E20297	Flat Hd Soc Machine Screw M8x16 Zinc	3
17	E82844	Clutch Plate	1
18	E82845	Spacer	3
19	E88235	Brush Drive Gear Motor 24VDC 400W	1
19.11	E20451	Solution Tube	1
19.12	E81694	Shaft Key	1
20	E83565	Knob	1
21	E20418	Clutch Coupling	1
23	E83491	Spring	1
24	E83881	Hex Bolt M5x20 Zinc	1
25	E88010	Hex Nut, M5	4
26	E83489	Rings	1
27	E20290	Flat Hd Soc Machine Screw M5x16 SS	2
28	E20507	Brush Deck	1
29	E20584	Retainer	1
30	E20358	Set Screw Hex Soc Cone Point M5x12 Zinc	2
31	E86169	Band Clamp	1
32	E83823	Screw M5x20/ SS Custom	1
33	E20592	Dowel Pin M8	1
34	E83672	Hex Jam Nut, M8x5 SS	1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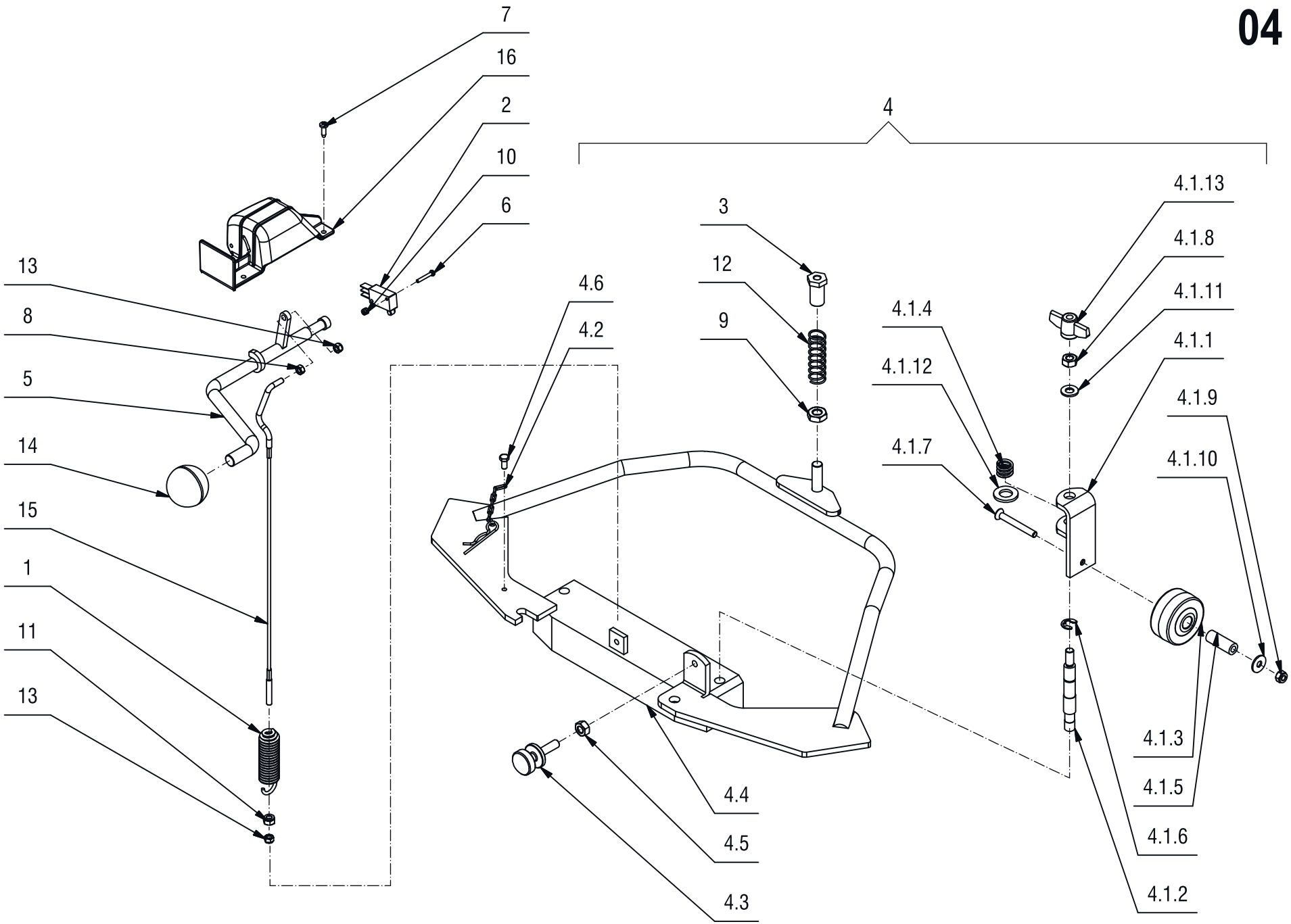
Item Number	Part Number	Description	QTY.
1	E82665	Squeegee Shoe	1
2	E81809	Band Clamp	1
3	E83327	Squeegee Blade, Front	1
4	E83417	Squeegee Blade, Central Shore 33	1
5	E83326	Squeegee Blade, Rear	1
6	E81633	Band Clamp	1
7	E83591	Knob	6
8	E82451	Wheel 45 OD x 25 W	2
9	E82253	Bushing	2
10	E82307	Squeegee Vacuum Adapter	1
11	E83971	Gasket	1
12	E83810	Knob	2
13	E82707	Set Screw Hex Soc Flat End M6x40 SS	2
14	E83945	Stud Bolt M10x33 Custom	1
15	E83911	Stud Bolt M10x46 Custom	1
16	E83590	Chain	1
17	E83851	Screw, Pan Hd Phil Self Tap M5.5x13 SS	1
18	E83914	Hex Bolt M6x20 SS	4
19	E81848	Flat Hd Soc Machine Screw M6x25 SS	6
20	E83802	Hex Bolt M8x30 Zinc	2
21	E20114	Hex Jam Nut, M6X3 SS	14
22	E82775	Nyloc Hex Nut, M6 SS	4
23	E83875	Hex Jam Nut, M10X6 Zinc	2
24	E81874	Flat Washer M8x17x1.6 Zinc	2
25	E81918	Flat Washer M9x32x2.5 Zinc	2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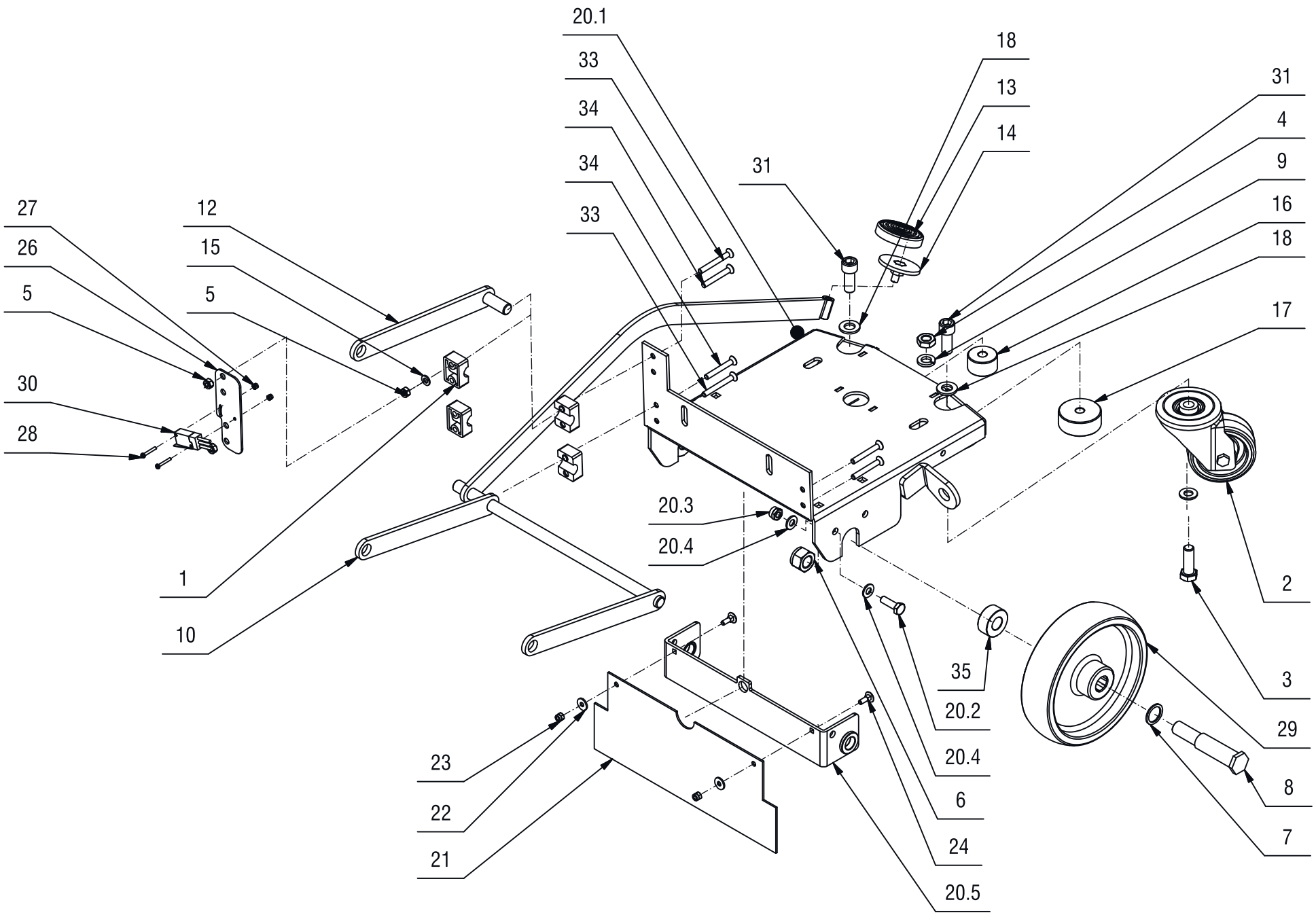
Item Number	Part Number	Description	QTY.
1	E82279	Spring	1
2	E88279	Micro Switch Sealed	1
3	E20373	Guide Bushing	1
4	E20227	Squeegee Yoke ASM	1
4.1	E20644	Squeegee Wheel Support ASM	2
4,1,1	E85497	Weldment, Squeegee Wheel Support	1
4,1,2	E82329	Threaded Pin	1
4,1,3	E82428	Wheel 52 OD x 28 W	1
4,1,4	E81634	Spring Compression	1
4,1,5	E82273	Bushing	1
4,1,6	E85498	E Style Circlip	1
4,1,7	E20246	Flat Hd Soc Machine Screw M6x50 Zinc	1
4,1,8	E83656	Hex Nut, M8x6.5 Zinc	1
4,1,9	E83550	NyLoc Hex Nut, M6 Zinc	1
4,1,10	E82798	Flat Washer M6x18x1.5 Zinc	1
4,1,11	E81874	Flat Washer M8x17x1.6 Zinc	1
4,1,12	E85722	Flat Washer M13x24x2.5 Zinc	1
4,1,13	E83531	Knob	1
4.2	E83590	Chain	1
4.3	E83655	Adjuster Knob	1
4.4	E20286	Squeegee Yoke	1
4.5	E85499	Hex Nut, M8x6.5 SS	1
4.6	E20134	Hex Bolt M5x10 Zinc	1
5	E20408	Squeegee Lift Lever	1
6	E20242	Pan Hd Phil Machine Screw M3x20 Zinc	2
7	E83838	Screw 4.2 X 13	4
8	E82317	Hex Jam Nut, M5X3.5 Zinc	1
9	E83875	Hex Jam Nut, M10X6 Zinc	1
10	E81673	Hex Nyloc Nut, M3 Zinc	2
11	E83550	NyLoc Hex Nut, M6 Zinc	1
12	E88248	Spring 17 x 14 x 53 Wide D=1.5	1
13	E20382	Nyloc Hex Nut, M5x5 Zinc	2
14	E20638	Knob	1
15	E88250	Squeegee Lift Cable	1
16	E20641	Bracket	1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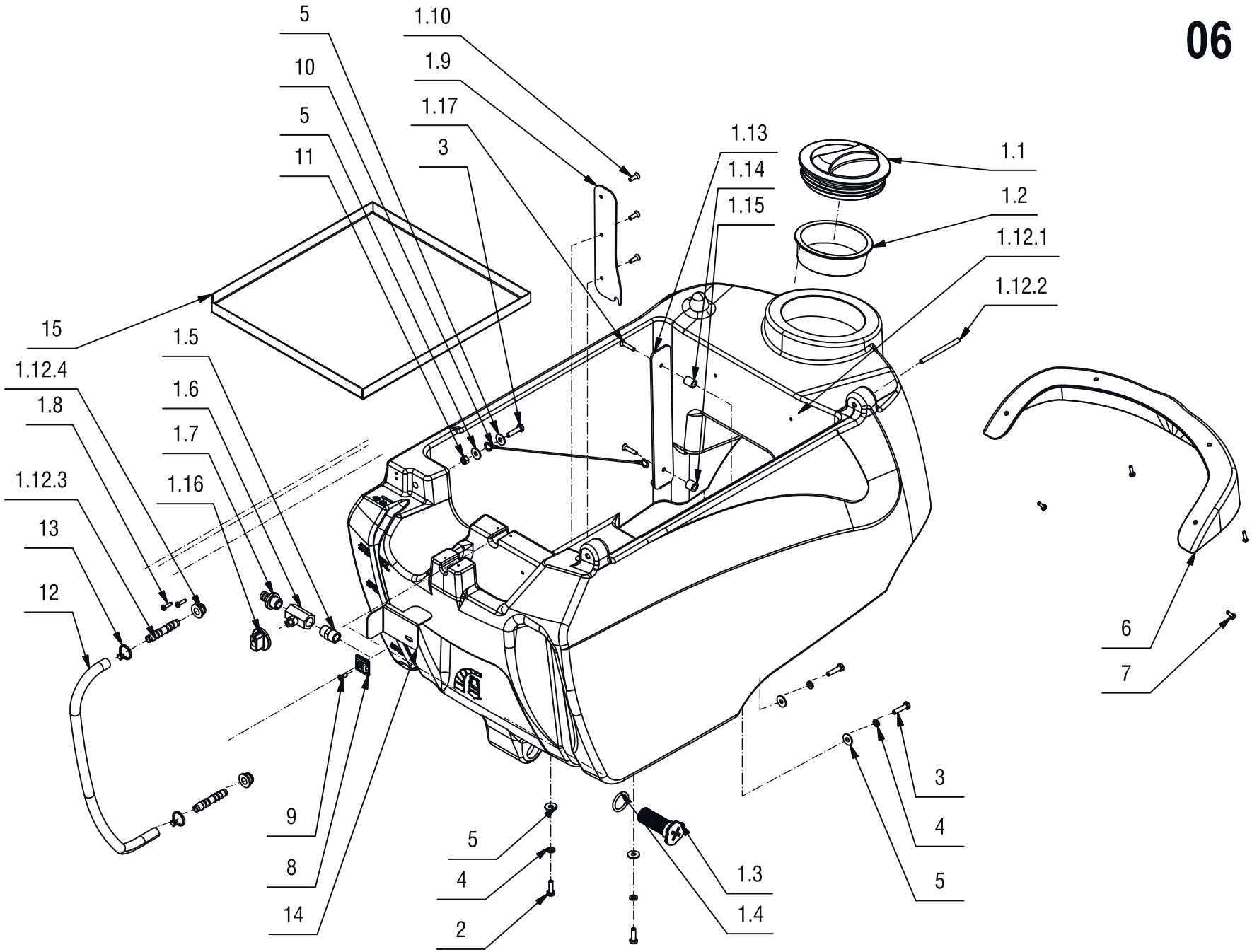
Item Number	Part Number	Description	QTY.
1	E82834	Pivot Block	6
2	E20437	Castor	1
3	E81735	Hex Bolt M12x35 Zinc	1
4	E83829	Hex Jam Nut, M12X7 Zinc	1
5	E83550	NyLoc Hex Nut, M6 Zinc	8
6	E81627	Nyloc Hex Nut, M16 Zinc	2
7	E81948	Flat Washer M20x26x1.5 AL	2
8	E20647	Axle Shaft	2
9	E81738	Flat Washer M4x12x3 Zinc	1
10	E20388	Brush Deck Lift Arm Weldment	1
12	E83597	Brush Deck Lift Idler Arm Weldment	1
13	E83669	Pedal cover	1
14	E20370	Foot Pedal	1
15	E82761	Flat Washer M6x12x1.6 Zinc	6
16	E20226	Bumper	1
17	E20334	Bumper	1
18	E85722	Flat Washer M13x24x2.5 Zinc	2
20	E20430	Main Frame ASM	1
20.1	E20600	Main Frame Weldment	1
20.2	E83833	Hex Bolt M8x25 Zinc	2
20.3	E82807	Nyloc Hex Jam Nut, M8 Zinc	2
20.4	E81874	Flat Washer M8x17x1.6 Zinc	4
20.5	E20532	Axle Mounting Bracket	1
21	E20501	Splash Guard	1
22	E20122	Flat Washer M5x15x1.5 SS	2
23	E20116	Nyloc Hex Nut, M5x7 SS	2
24	E20488	Carriage Bolt M5x16 Zinc	2
26	E20473	Switch Plate	1
27	E20435	Nyloc Hex Nut, M3 SS	2
28	E20242	Pan Hd Phil Machine Screw M3x20 Zinc	2
29	E82551	Transport Wheel 175 OD x 45 W	2
30	E88256	Micro Switch	1
31	E20380	Soc Hd Cap Screw M12x30 Zinc	2
32	E82773	Flat Washer M10x21x2 Zinc	1
33	E20246	Flat Hd Soc Machine Screw M6x50 Zinc	2
34	E20255	Flat Hd Soc Machine Screw M6x45 Zinc	4
35	E20528	Spacer	2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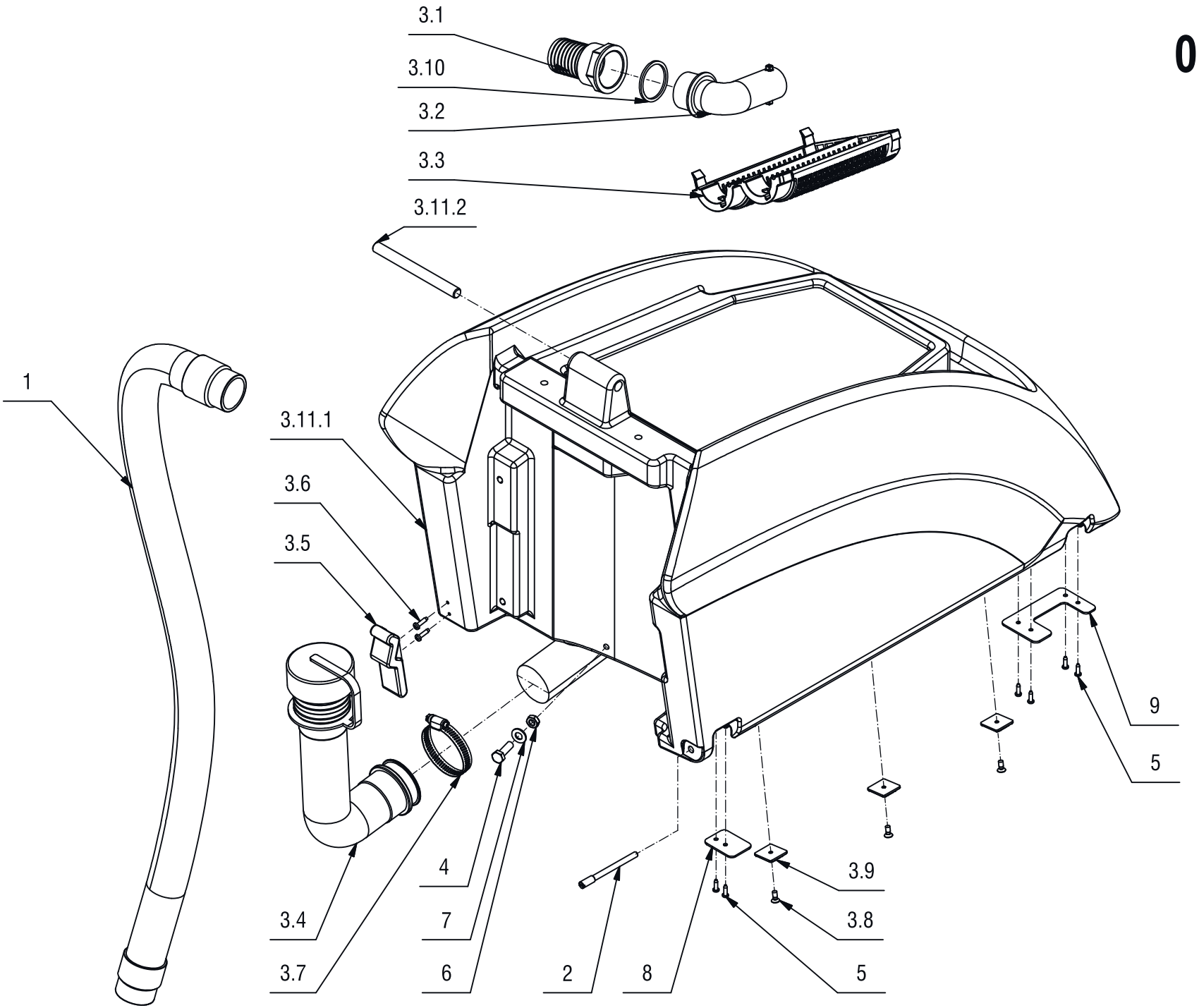
Item Number	Part Number	Description	QTY.
1	E20285	Solution Tank ASM	1
1.1	E82429	Cap	1
1.1	E20569	Flat Hd Soc Machine Screw M5x16 Zinc	3
1.12	E20197	Solution Tank ASM	1
1.12.2	E20389	Hinge Pin	1
1.12.3	E20196	Barbed Nipple	2
1.12.4	E20271	Grommet	2
1.13	E20611	Guard Plate	1
1.14	E20577	Spacer	1
1.15	E20606	Spacer	1
1.16	E86145	Knob	1
1.17	E20110	Flat Hd Soc Machine Screw M5x25 SS	2
1.2	E82612	Filter	1
1.3	E88259	Filter, Water 23 x 53 Plug 3/4"	1
1.4	E88261	Flat Washer M8.2x32x4 Zinc	1
1.5	E83930	Pipe Nipple, 3/8 in.	1
1.6	E83361	Ball Valve	1
1.7	E83601	Barbed Nipple	1
1.8	E20107	Screw, Pan Hd Phil Self Tap M4.2x16 SS	2
1.9	E20409	Foot Pedal Latch Plate	1
2	E82772	Hex Bolt M6x20 Zinc	2
3	E20090	Hex Bolt M6x25 Zinc	3
4	E82774	Flat Washer M6x12x1.6 SS	4
5	E82798	Flat Washer M6x18x1.5 Zinc	6
6	E20438	Bezel	1
7	E20392	Pan Hd Phil Machine Screw M4x16 Zinc	4
8	E81619	Support Bracket	1
9	E20468	Flat Hd Phil Machine Screw M5x12 Zinc	1
10	E88260	Lanyard	1
11	E20112	Hex Nut, M6x6 Zinc	1
12	E88258	Hose, Glass Reinforced 15 OD x 10 ID x 496 L	1
13	E83935	Hose Clamp	2
14	E20411	Bracket	1
15	E20538	Battery Tray	1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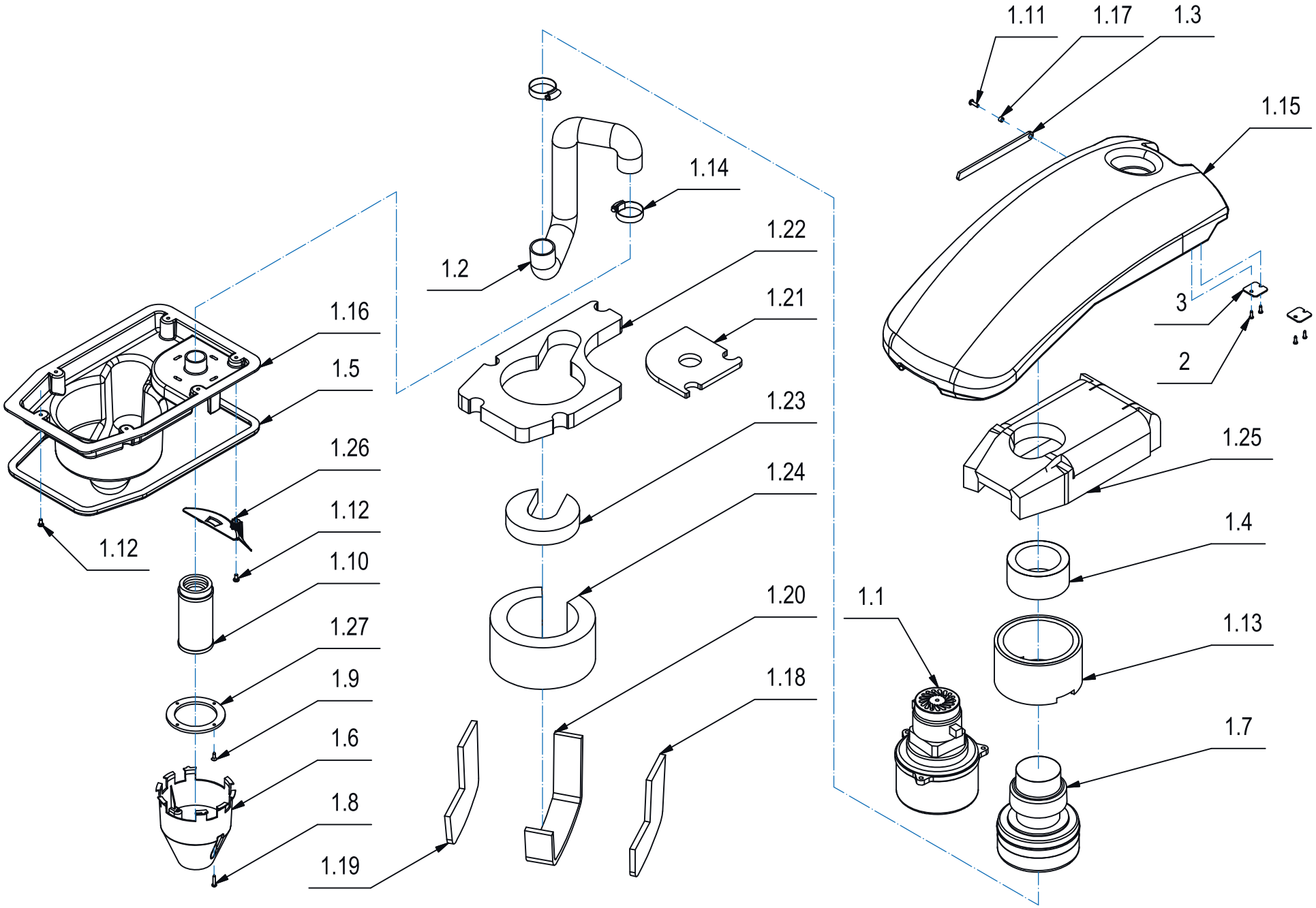
Item Number	Part Number	Description	QTY.
1	E12666	Squeegee Vacuum Hose	1
2	E20074	Hinge Pin	1
3	E20354	Recovery Tank ASM	1
3.1	E20189	Barbed Nipple	1
3.2	E20186	Elbow	1
3.3	E88285	Filter, Cage	1
3.4	E88286	Hose, Drain	1
3.5	E20413	Latch	1
3.6	E20107	Screw, Pan Hd Phil Self Tap M4.2x16 SS	2
3.7	E20432	Hose Clamp	1
3.8	E20468	Flat Hd Phil Machine Screw M5x12 Zinc	3
3.9	E81619	Support Bracket	3
3.1	E82341	Gasket	1
3.11	E20198	Recovery Tank ASM	1
3.11.2	E20188	Hinge Pin	1
4	E83833	Hex Bolt M8x25 Zinc	1
5	E82638	Screw, Pan Hd Phil Self Tap M3.9x13 SS	6
6	E82808	Hex Jam Nut, M8X5 Zinc	1
7	E20127	Flat Washer M9x18x1.5 Zinc	1
8	E20563	Plate	1
9	E20195	Plate	1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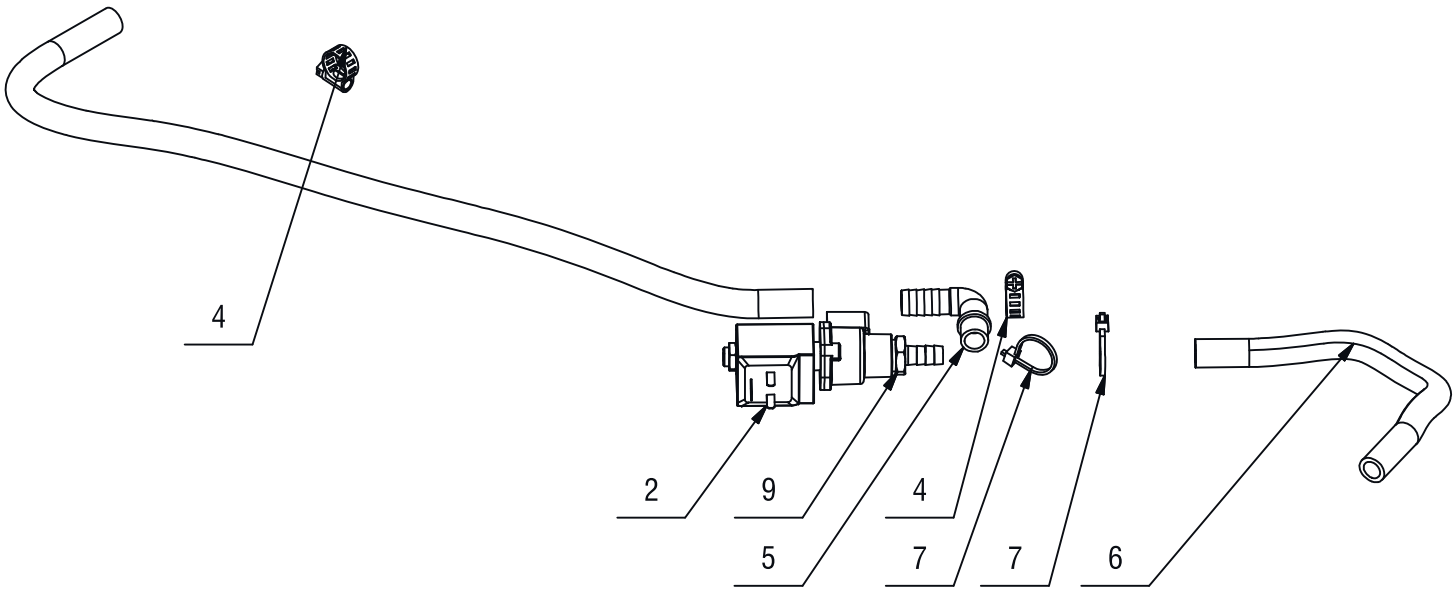
Item Number	Part Number	Description	QTY.
1	E20066	Recovery Tank Cover ASM	1
1.1	E20599	Vacuum Motor 24VDC 550W	1
1.10	E88292	Filter, Cage	1
1.11	E20442	Button Hd Soc Machine Screw M5x16 Zinc	1
1.12	E20613	Pan Hd Phil Machine Screw M5x10 Zinc	6
1.13	E20652	Sound Deadening Foam	1
1.14	E20325	Hose Clamp	2
1.15	E20199	Recovery Tank Cover	1
1.16	E20384	Vacuum Motor Cover	1
1.17	E20486	Bushing	1
1.18	E20266	Sound Deadening Foam	1
1.19	E20178	Sound Deadening Foam	1
1.2	E88290	Hose, Vacuum	1
1.20	E20179	Sound Deadening Foam	1
1.21	E20180	Sound Deadening Foam	1
1.22	E20181	Sound Deadening Foam	1
1.23	E20182	Sound Deadening Foam	1
1.24	E20183	Sound Deadening Foam	1
1.25	E20184	Sound Deadening Foam	1
1.26	E20191	Deflector	1
1.27	E20305	Mounting Ring	1
1.3	E20064	Support Bracket	1
1.4	E20440	Sound Deadening Foam	1
1.5	E88289	Gasket	1
1.6	E81006	Vacuum Splash Guard	1
1.7	E88200	Vacuum Motor 36VDC 550W	1
1.8	E20105	Screw, Pan Hd Phil Self Tap M4.2x22 SS	2
1.9	E83796	Screw, Pan Hd Phil Self Tap M4.2x16 Zinc	2
2	E82638	Screw, Pan Hd Phil Self Tap M3.9x13 SS	4
3	E20265	Plate	2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Item Number	Part Number	Description	QTY.
2	E81035	Solenoid Valve	1
4	E85762	Hose Clamp	2
5	E86275	Barbed Elbow	1
6	E88265	Hose, Glass Reinforced D 10 x 140	1
7	E83935	Hose Clamp	2
8	E20375	Tubing 10 ID x 650 L	1
9	E20602	Barbed Threaded Nipple	1

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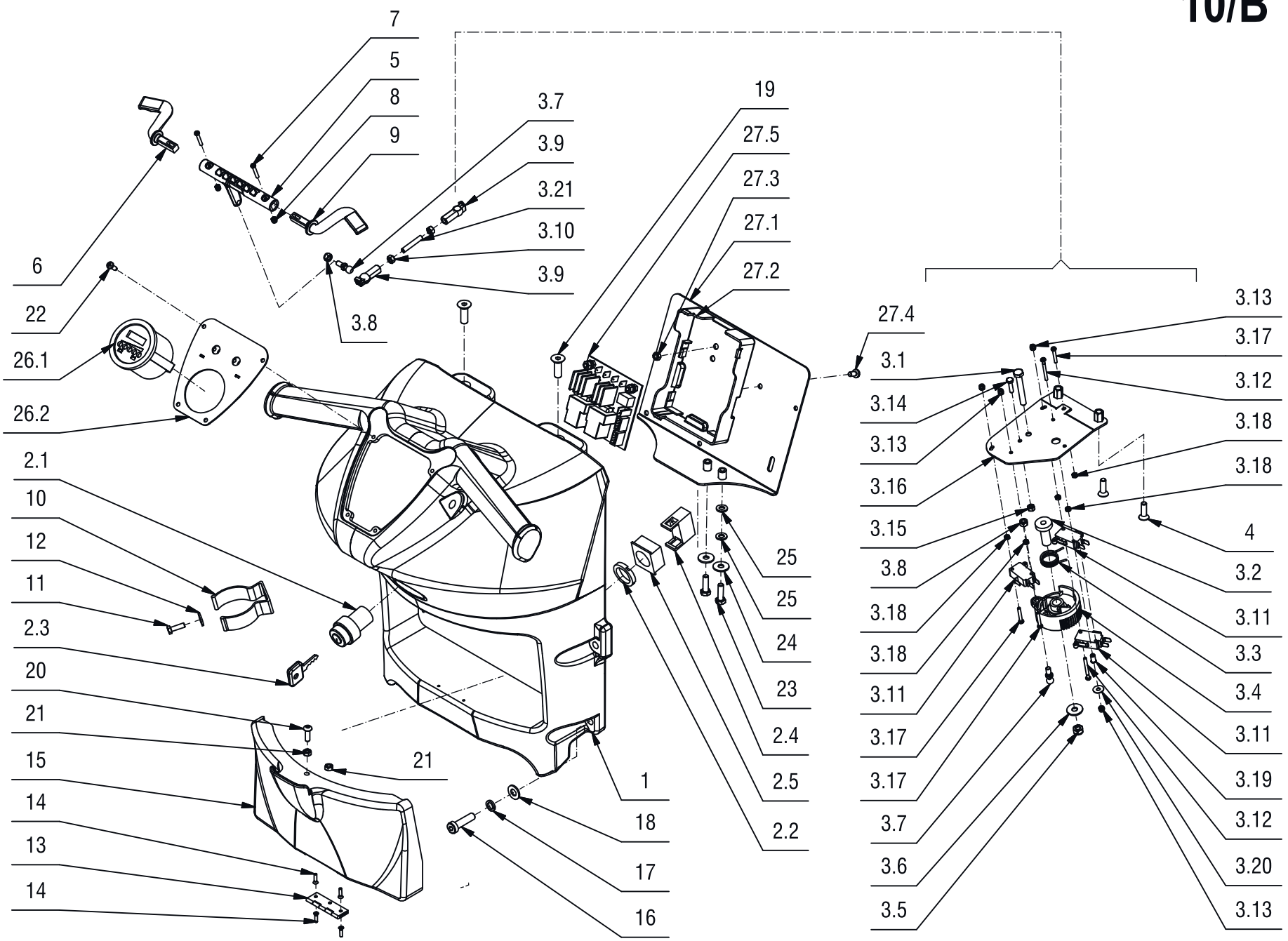
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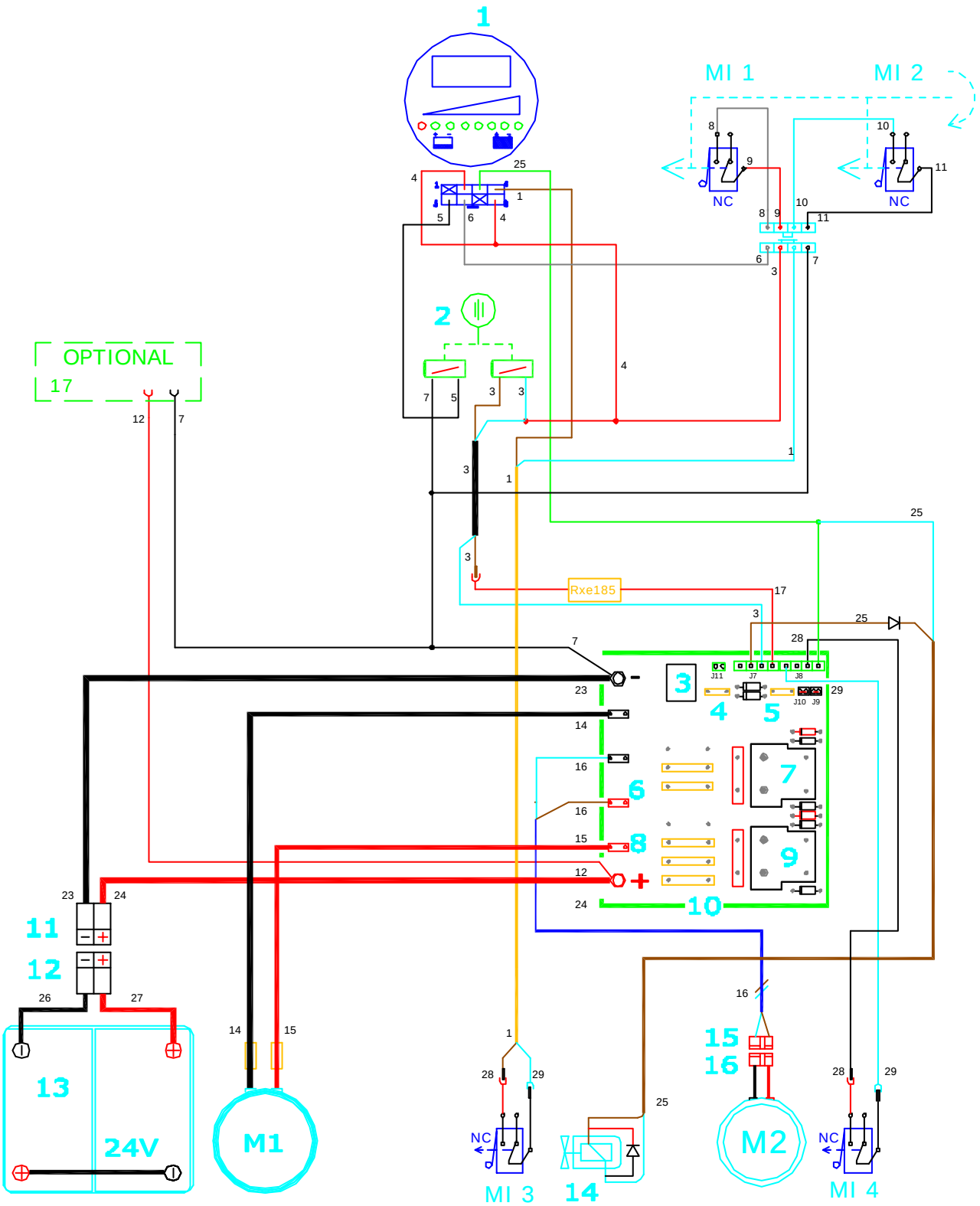
Item Number	Part Number	Description	QTY.
1	E20200	Handlebar Housing	1
2	E82351	Key Switch	1
2.1	E83316	Key Switch	1
2.2	E83316	Key Switch	1
2.3	E83315	Switch Key	1
2.4	E83173	Key Switch Contact	1
2.5	E81358	Switch Flange	1
3	E20223	Drive Control	1
3.1	E20360	Hex Bolt M6x45 Zinc	1
3.2	E20574	Bushing	1
3.3	E88204	Spring	1
3.4	E81763	Cam	1
3.5	E83550	NyLoc Hex Nut, M6 Zinc	1
3.6	E82798	Flat Washer M6x18x1.5 Zinc	1
3.7	E20330	Pin	2
3.8	E20382	Nyloc Hex Nut, M5x5 Zinc	2
3.9	E81625	Ball Stud Receiver	2
3.1	E82317	Hex Jam Nut, M5X3.5 Zinc	2
3.11	E82270	Micro Switch	3
3.12	E20243	Pan Hd Phil Machine Screw M3x30 Zinc	2
3.13	E81673	Hex Nyloc Nut, M3 Zinc	4
3.14	E20341	Hex Bolt M4x16 Zinc	1
3.15	E20248	Hex Nut, M4x4 Zinc	1
3.16	E20556	Plate	1
3.17	E20242	Pan Hd Phil Machine Screw M3x20 Zinc	3
3.18	E20365	Hex Nut, M3x2.5 Zinc	5
3.19	E20466	Insert	1
3.2	E83037	Flat Washer M4x12x1.6 Zinc	1
3.21	E20362	Set Screw Hex Soc Dog Point M5x30 Zinc	1
4	E20111	Flat Hd Soc Machine Screw M6x20 Zinc	2
5	E88267	Switch Cam	1
6	E88300	Lever, Left Switch	1
7	E20242	Pan Hd Phil Machine Screw M3x20 Zinc	2
8	E81673	Hex Nyloc Nut, M3 Zinc	2
9	E88301	Lever, Right Switch	1
10	W87296	Drain Hose Clip	1
11	E83836	Hex Bolt M5x16 Zinc	1
12	E20121	Flat Washer M5x15x1.5 Zinc	1
13	E20400	Hinge	1
14	E20192	CHIPBOARD SCREW M3x12 Zinc	4
15	E20267	Door	1
16	E20288	Soc Hd Cap Screw M8x30 Zinc	4
17	E83704	Lock Washer M8x13x2.2 Zinc	4
18	E81874	Flat Washer M8x17x1.6 Zinc	4
19	E20346	Flat Hd Soc Machine Screw M8x25 SS	2
20	E20442	Button Hd Soc Machine Screw M5x16 Zinc	1
21	E82317	Hex Jam Nut, M5X3.5 Zinc	2
22	E83838	Screw 4.2 X 13	4
23	E82772	Hex Bolt M6x20 Zinc	2
24	E82798	Flat Washer M6x18x1.5 Zinc	2
25	E82761	Flat Washer M6x12x1.6 Zinc	2
26	E20463	Instrument Panel ASM	1
26.1	E88293	Hour Meter	1
26.2	E20332	Panel	1
27	E20336	Electronics ASM	1
27.1	E20374	Plate	1
27.2	E85788	Electrical Housing	1
27.3	E82317	Hex Jam Nut, M5X3.5 Zinc	1
27.4	E83899	Pan Hd Phil Machine Screw M5x10 SS	1
27.5	E88266	Relay Card	1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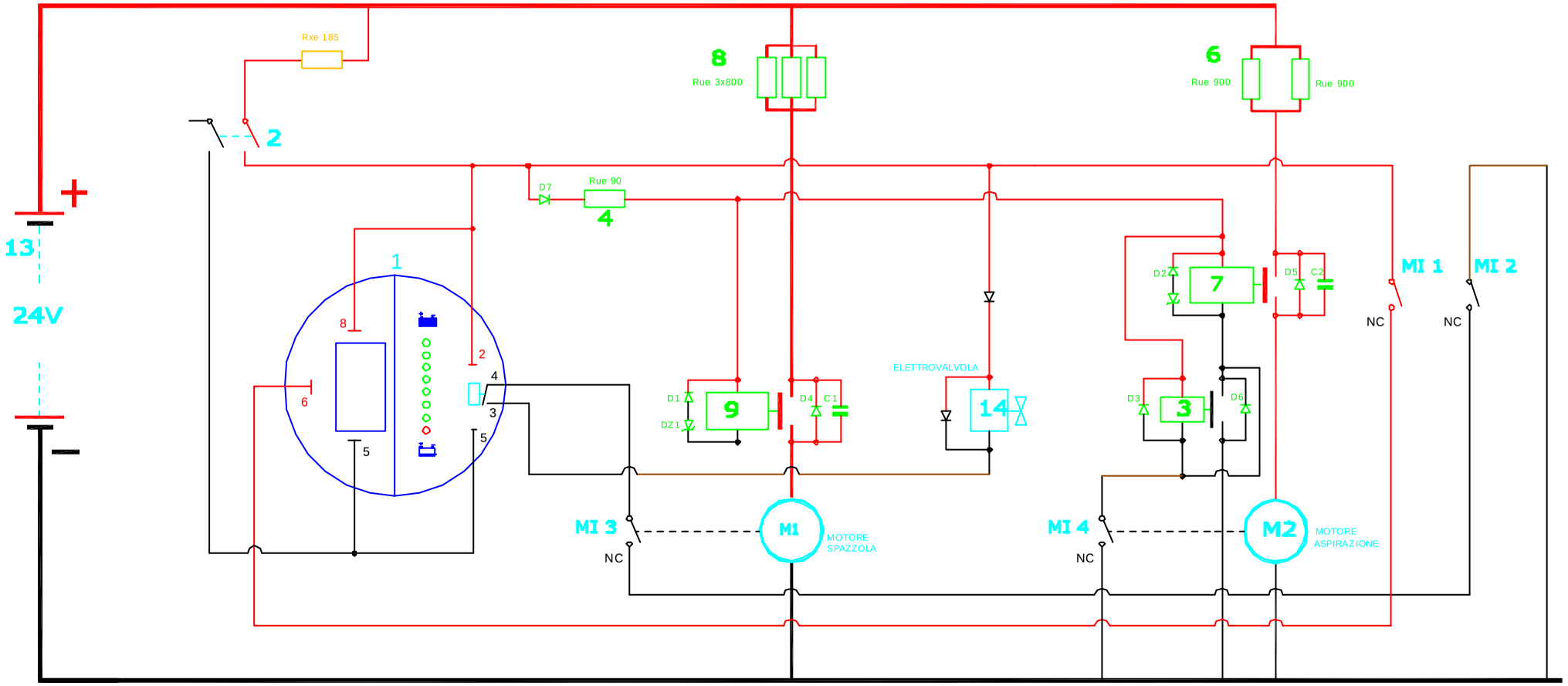
Item Number	Part Number	Description
1	E88293	Hour Meter
2	E82351	Key Switch
10	E88266	Relay Card
11	E86208	SB50 Red Electrical Connector
14	E82322	Solenoid Valve
15	E20402	Electrical Connector 30A
16	E20402	Electrical Connector 30A
MI 1	E82270	Micro Switch
MI 2	E82270	Micro Switch
MI 3	E88249	Micro Switch
MI 4	E88249	Micro Switch
M1	E88235	Brush Gear Motor 24VDC 400W
M2	E88291	Vacuum Motor 36VDC 550W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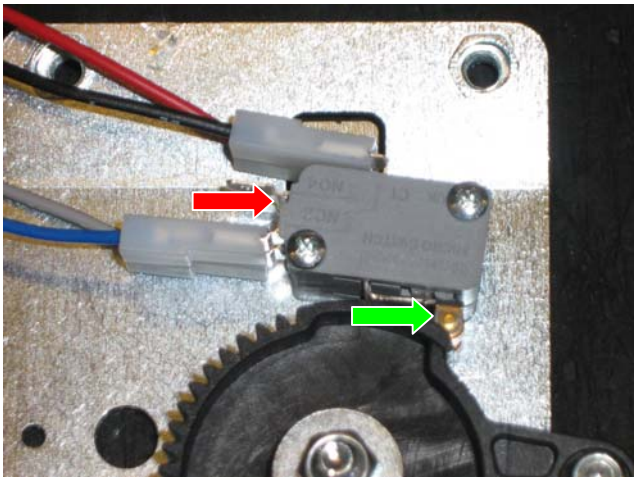
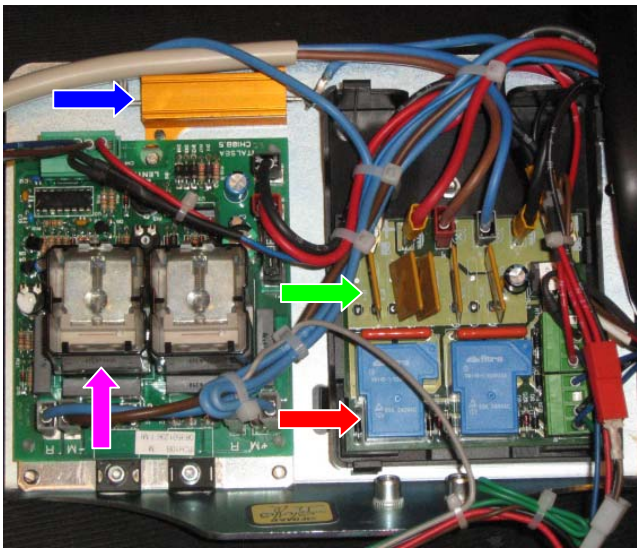
Electric harness inspection.	
1. Verify the functionality and adjustment of the **micro switches** of the handle command. 2. Verify that the micro switches are pressed with the lever in rest position and that in that condition the micro switch lever has about **0.5mm of movement**.	
3. Verify the functionality and conditions af the **power contactors** of the **self recovery fuses** and of the connections of the control card.	

Battery Check Card – Hour Meter

1. Verify that turning on the machine the battery check card has the following starting sequence:

- Turning on of the LED which correspond to the set-up (red LED = “0”).
- Turning on of all the LEDs (check of the lamps)
- Turning on of the LEDs depending on the charge of the battery

2. Verify the hour meter functionality

To verify which is the set-up you simply need to turn on the machine and check which is the first LED that turns on. Counting the LEDs since the left side any LED correspond to a position and the LED which turn on correspond to the current set-up.

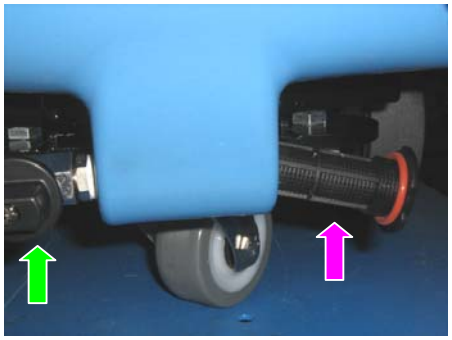
Verify that if the machine uses wet cell batteries the adjustment is on position 1.

Verify that if the machine uses GEL batteries the adjustment is on position 4.

WARNING: A wrong set-up of the battery control card can compromise the battery efficiency and damage then in irreversible way.

Hydraulic plant inspections

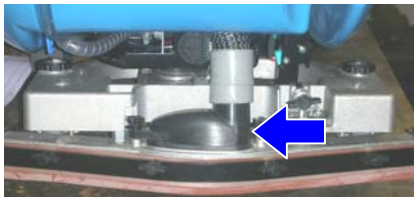
1. Fill up the solution tank and verify the sealing of the gasket particularly on the **solution valve** and on the **drain plug**.
2. Verify that the water distribution on the floor is even and dependent on the solution valve adjustment.
3. Check the internal cleanness of the water valve. If necessary clean it using a metal bar putted inside the threaded hole of the filter plug.



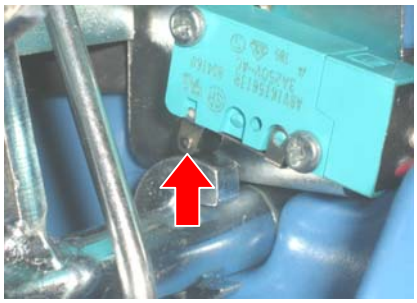
4. Verify the cleanness and functionality of the **solution filter** under the solution tank plug.

Vacuum system inspection

1. Verify the cleanness and functionality of the **float filter**.
2. Check the air sealing of the **vacuum head** on the recovery tank.
3. Verify the connections and the sealing of the vacuum hoses and the squeegee hoses.
4. Check the sealing of the **squeegee hose adapter**.
5. Check the sealing of the exhaust hose and exhaust hose plug.



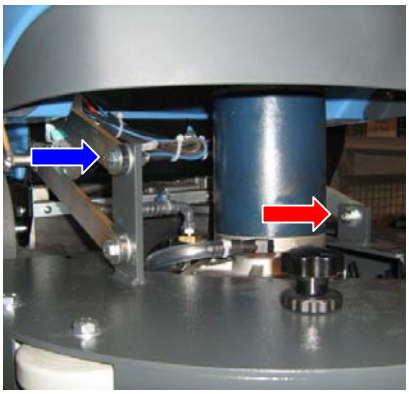
6. Vacuum micro switch adjustment:
7. Adjust the vacuum micro switch in way that when the cam on the squeegee lever **push the micro switch** there is about 0.5 mm of clearance of the micro switch lever.



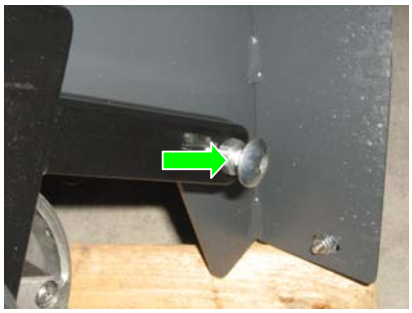
Brush base adjustment

Verify the right inclination of the brush base. To adjust the brush base act as follow:

- Lower the brush base on the floor with the brush.
- **Loosen the M8 bolt and the M8 nut** that attach the brush base to the left arm.
- **Loosen the nut and the bolt** that attach the brush base to the idler arm.
- Verify that the brush base correctly lays on the floor and the brush touch completely the floor.
- **Tighten the nut and its M8 bolt** to lock the left arm of the brush base.
- Lift up the front side of the brush base to let it be 5 mm from the floor as regards the back side.
- **Tighten the M8 nut** to secrue the brush base in this position.

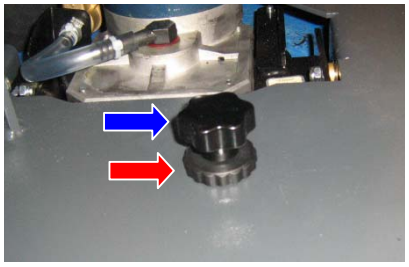


Check that the **pan head screw** on the back side is adjusted near the flat part of the brush. The distance between the screw head and the brush has to be 1-2 mm when the brush is locked and the brush base is lowered.



In the machines without traction:

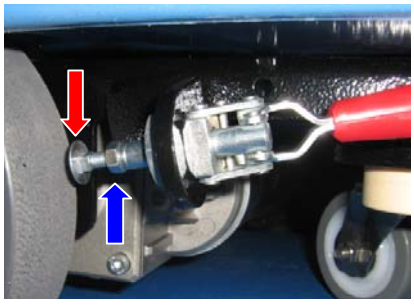
- Loose the **ring nut**.
- Adjust the **knob** to let the brush in working condition help the machine in going forward. (**Tighten** to increase the traction effect, **loosen** to decrease the traction effect).
- When the right adjustment is reached, tighten the **ring nut**.



Brake adjustment

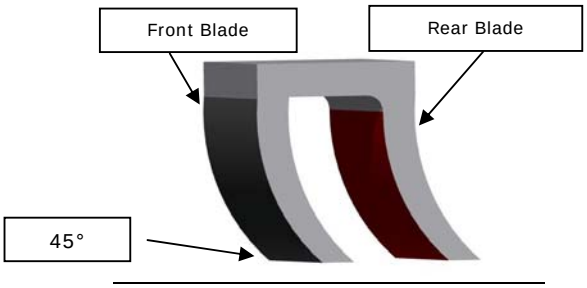
1. Verify that the brake on the left hand wheel blocks the wheel when active.
2. Otherwise act as follow:

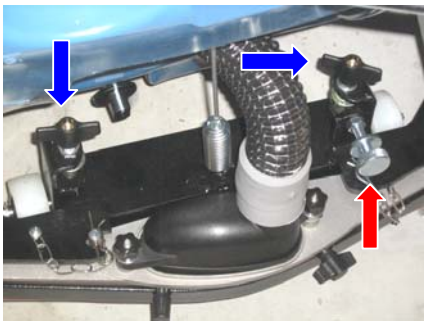
- Unscrew the **jam nut**.
- Loosen the **pad screw** to achieve the right adjustment.
- Verify the adjustment with a functional test
- Tighten the **jam nut** to assure a right adjustment.



Squeegee adjustment

1. Adjust the inclination **adjuster** of the squeegee blade until the blade has a common inclination over its length.
2. Adjust the height of the wheels using the **knob** checking that the blade has an inclination between 30 and 45 degrees.





3. Verify the cleanness and sealing of the squeegee hose adapter.

Functional check of the machine
☐ Check the functionality of switches;
☐ Check the functionality of the accelerator lever;
☐ Check the functionality of the brush base;
☐ Check the functionality of the brush motor;
☐ Check the functionality of the solenoid valve;
☐ Check the functionality of the vacuum motor;
☐ Check the functionality of the brakes;
☐ Check the functionality of batteries and power cables;

Functional test of the machine
☐ Fill up the tanks completely and verify the sealing;
☐ Verify the sealing of all the water plant and that the water is equal on the brush;
☐ Adjust the inclination and the height of the squeegee blades doing a functional test;
☐ Adjust the inclination of the brush base and do a functional test;
☐ Check the efficiency of the parking brake;
☐ Verify the forward and backward movement, acceleration and braking;

Final Check
Check all the functions: washing, drying and movement

BETCO US WARRANTY POLICY

10 year coverage

Subject to the conditions stated below, Betco warrants parts and labor on rotationally molded polyethylene tanks/housings and injection molded vacuum head assemblies to be free from defects in materials and workmanship for a period of ten years to the original purchaser.

3 Year Coverage

Subject to the conditions stated below, Betco warrants parts and labor on all other Betco components to be free from defects in materials and workmanship for a period of three years to the original purchaser.

1 Year Coverage

Subject to the conditions stated below, Betco offers a limited warranty on parts and labor on the following equipment: parts and accessories to be free from defects in materials and workmanship for a period of one year to the original purchaser.

- DM Series Vacuums: #85506-00, #85507-00
- Bac Pac Lite Vacuum: #85903-00
- FiberPRO® Floor Dryer: #85507-00
- WORKMAN™ Series Vacuums: #85024-00, #85025-00, #85026-00, #85027-00
- CV100T Vacuum: #85023-00
- All Tools and Accessories
- All Battery Chargers
- All Batteries are pro-rated for 1 year

Allowable Travel Time Warranty Reimbursement:
Eligible equipment: All battery and propane powered equipment products. Warranty period: 90 days from date of sale to the original purchaser. A maximum 60 mile round trip at 44 cents per mile will be allowed for warranty consideration.

Propane Machine Warranty:
Honda engines are warranted by Honda for a period of 2 years against manufacturer defects. Kawasaki engines are warranted by Kawasaki for a period of 2 years against manufacturer defects. All other components (except wear items)* are warranted by Betco for a period of 3 years.

***Wear Items exempt from Warranty consideration include but may not be limited to: power cords, transport wheels, vacuum bags, belts, squeegee blades, pad drivers, clutch plates, handle grips, filters, screens, throttle cables, brushes and carbon brushes.**

Subject to the conditions and exceptions stated in this warranty, Betco warrants the Betco products to be free from defects in material and workmanship, under normal use and service, for the periods listed under the warranty policy to the original purchaser. At any time during the warranty period, Betco will furnish replacement parts for the Betco parts to the original purchaser. Such parts will be furnished and charged including transportation costs, to the original owner through any Betco authorized Service Distributor. If the original part is returned within the warranty policy period from date of delivery for inspection by Betco and is found to be defective the owner will be credited for the cost of replacement parts plus shipping and handling. Replacement parts that have become defective through wear or abuse are not included in this warranty.

This warranty does not apply to damage or defect caused by accident, misuse. Negligence, fire, or to any Betco product which has been serviced or repaired by other than an authorized Betco Service Distributor or Betco factory personnel. This warranty is void if products are used for any purpose other than that which was intended. There are no other warranties expressed or implied. In no event shall Betco be liable for incidental or consequential damages or any damage to person or property. (Please note some states do not allow the exclusion or limitations for incidental and consequential damages)

BETCO®

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